

# 2018 Open Space and Recreation Plan



June 2018

Submitted by: The Town of Tewksbury

Open Space and Recreation Committee

Prepared by: Northern Middlesex Council of Governments

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#### **Section 1: Plan Summary**

Since the completion of the 2009 Open Space and Recreation Plan Update, the Town of Tewksbury has experienced moderate growth. Between 2012 and 2016, there were 328 residential permits issued to construct 499 units.<sup>1</sup> Once a rural agricultural town, Tewksbury is now a mature suburb and is home to approximately 29,000 people. Nonetheless, Tewksbury has been able to permanently protect approximately 1,866 acres of open space, of which 970 acres are under the ownership of the Commonwealth of Massachusetts and 803 acres are owned by the Town, while the remaining acreage is privately owned.

The Tewksbury Open Space and Recreation Plan Update builds upon the accomplishments of past plans, and has been prepared by the Open Space and Recreation Committee, with technical assistance from the Northern Middlesex Council of Governments. The Plan follows the Massachusetts Executive Office of Energy and Environmental Affairs requirements and guidelines, provides an inventory of open space and recreation resources, assesses community needs, establishes goals and objectives, and outlines a seven-year action plan.

This plan reflects Tewksbury's desire to preserve and manage its remaining open spaces and natural resources, while continuing to expand passive and active recreational opportunities. As a first step, the plan provides an inventory of the Town's existing protected open space and recreational areas. In addition, it highlights unprotected lands of conservation interest in order to help focus its planning efforts and provide for future needs. The plan also provides an overview of Tewksbury's environmental resources and describes the relationship to the town's character today.

Throughout the Plan development process, the Open Space and Recreation Committee strived to formulate a document that meets the needs of the Town and all of its residents. A robust public participation process was undertaken, in order to ensure that the Plan incorporates the desires and concerns of all residents, including children, young families, seniors, and those with disabilities. The 2018 Open Space and Recreation Plan Update is based on the following nine goals:

- 1. Preserve, protect and provide access to the rivers, brooks, ponds, wetlands, and floodplain in Tewksbury;
- 2. Preserve and protect the Town's natural resources, including agricultural lands, forests, and outstanding natural features for future generations;

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<sup>&</sup>lt;sup>1</sup> Tewksbury Building Department

- 3. Provide accessible, well-balanced active and passive recreation opportunities for all Town residents;
- 4. Ensure adequate maintenance of conservation areas, open spaces and recreation facilities in the interest of protecting the Town's investment and reducing long-term costs;
- 5. Educate and engage the Town's residents regarding existing open space and recreation areas, and encourage enjoyment, use, and stewardship;
- 6. Preserve important historical and archaeological sites and resources;
- 7. Enhance and protect the scenic and aesthetic character of the Town;
- 8. Work with regional, federal and state agencies, and non-profit organizations to develop a trail network linking open spaces within Tewksbury, as well as establishing linkages to trail facilities in adjoining communities; and
- 9. Identify and acquire open space and recreation lands for permanent protection, as properties and funding become available.

These goals were initially developed and later refined to reflect the input received through the Visioning Session, the written community survey, Open Space and Recreation Committee meetings, and the public meeting on the draft plan. The goals serve as the foundation for the Seven-Year Action Plan.

#### **Section 2: Introduction**

#### A. Statement of Purpose

The 2018 Open Space and Recreation Plan Update is intended to serve as a guide for Tewksbury's citizens and local officials, as they work together over the next seven years to protect the Town's natural, cultural and historic resources; preserve remaining open space; and provide recreational opportunities for the Town's residents. Such a coordinated and well-planned effort will allow these unique places and resources to be enjoyed by future generations. The Plan is specific enough to guide future decision making and provide policy direction, while allowing the flexibility needed to respond to changing opportunities, programs and constraints.

Tewksbury's inventory of protected landscapes provides many benefits to the community: water supply protection, preservation of fragile natural habitats, and retention of the town's remaining rural and suburban character. Since many of the open space properties contain trails, they also provide passive recreational opportunities for residents. Tewksbury has changed in response to the relatively rapid growth that has occurred throughout the region. The town's natural resources and vacant land remain vulnerable to development, and conservation presents one of the Town's greatest challenges. Tewksbury's continued residential growth will place added pressure on the Town to provide adequate recreation opportunities. Directing active and passive recreation toward appropriate lands is important to the Town's ongoing efforts to protect its natural resources.

While residents largely support protecting more open space, the Town recognizes that it must focus on appropriately managing the land that it already owns. Open space and recreation facilities comprise the green infrastructure system of the community, in that they support and link the built and natural environments. Through the adoption of this Open Space and Recreation Plan, the Town recognizes that protection and responsible stewardship of its natural, cultural and historic resources is essential to the overall quality of life, health, economic vitality and sustainability of the community.

#### B. Planning Process and Public Participation

The 2018 Tewksbury Open Space and Recreation Plan Update was developed by the Open Space and Recreation Committee. The Committee is comprised of five members and met every 4-8 weeks throughout the plan development process. Copies of the meeting notices and agendas are included in Appendix A. The meetings were open to the general public and posted in accordance with Massachusetts Open Meeting Law.

Public participation was sought through a written survey distributed to each Tewksbury household. A copy of the survey is included in Appendix B. A total 924 survey responses were received and analyzed. The survey was formulated using the State's prototype as a model, and the instrument was customized to fit Tewksbury. Most respondents completed the survey online through SurveyMonkey, although hard copies were also available at the Town Hall, Library and Senior Center. The survey results can be found in Appendix C and are summarized below:

- Residents rank the preservation of open space for passive recreation and for water protection as their highest priorities, followed by active recreation, conservation and historic preservation.
- Over 86 % of respondents feel that there is a need to preserve open space and natural areas in Tewksbury. In addition, 88% of those responding support open space preservation, if taxes are not increased as a result. Approximately 78% feel that the preservation of farmland is very important or important.
- 57% of respondents would vote in favor of a town-supported land acquisition program, while 45% support instituting seasonal or annual fees for use of certain open space and recreational facilities.
- 75% of respondents support using Community Preservation Act (CPA) funds to preserve open space.
- Approximately one-third of respondents indicate that that they are willing to consider: (1) selling or contributing a conservation restriction to protect their property from future development; (2) rewriting their deed to limit future development; (3) selling land to the Town at fair market value; and/or (4) supporting tax increases for open space preservation.
- According to survey respondents, the most utilized open space areas, recreation
  facilities, programs and places in the community include the Library, Livingston
  Park and Playground, and the Tewksbury State Hospital land. Other popular
  responses include the town conservation areas, the local rivers and ponds, school
  playgrounds and athletic fields, soccer fields, and baseball fields.
- In terms of need, residents identified trails for biking, hiking and cross-country skiing; conservation areas; a large park with many facilities; public access to local water bodies; and the Library as being of highest priority.
- 53% of respondents indicated that they are very satisfied or satisfied with recreation facilities and programs for youth, 22.4% were neutral, while 13% were either dissatisfied or very dissatisfied.
- 37% of respondents were either very satisfied or satisfied with recreational facilities and programs for adults, 38.3% were neutral, while 28% were either dissatisfied or very dissatisfied.

- Approximately 78% of the respondents utilize open space and recreation facilities in other towns, with popular destinations including Andover, Billerica, Chelmsford, Lowell, North Andover, Wilmington and New Hampshire.
- Respondents identified the following landscapes, views, buildings or locations as being most symbolic of Tewksbury:
  - o Tewksbury State Hospital and grounds
  - o Town Hall
  - o Livingston Park/playground
  - Library
  - o Town Center
  - Mico Kaufman sculptures
  - o Town Common/gazebo
  - o East Street Farm/Farm stand
  - Tewksbury Country Club
  - Open space lands/forests
- When asked to identify what they like most about Tewksbury's environment and outdoor experiences and places respondents indicated the following:
  - Livingston Park
  - State Hospital and grounds
  - Conservation land/open space
  - Athletic fields
  - o Parks/playgrounds
  - o Open fields/farmland
  - o Rural character/small town feel
  - Proximity to highways
  - Sense of community/family oriented town
  - Library
- When asked to identify what they liked least about Tewksbury's environment and outdoor experiences and places respondents indicated the following:
  - Overdevelopment/number of condos and apartments
  - Lack of sidewalks
  - Route 38 traffic, appearance and vacant buildings
  - Too few trails for walking, hiking and bicycling
  - Lack of an actual Town Center with shops and amenities
  - o Traffic
  - Lack of a swimming facility (town beach, pool or splash park)
  - o Limited areas for dog walking/lack of a dog park
  - o Poor maintenance of roads and sidewalks
- Survey respondents identified the following as actions that the Town should take over the next five years relative to open space and recreation:

- o Construct and maintain additional trails for walking, hiking, and bicycling
- o Prohibit/limit future construction of housing, condos and apartments
- Maintain existing recreation and open space facilities
- Construct sidewalks
- o Preserve and protect existing open space parcels, open fields and farmland
- o Establish a dog park
- Improve and beautify Route 38
- o Preserve/purchase the State Hospital land
- o Focus on creating a definable town center with businesses and amenities
- Purchase additional open space.

A more detailed discussion of the survey results can be found in Section 7 of this document.

A Visioning Session was held on January 26, 2017 at the Tewksbury Memorial High School. The visioning session emphasized brainstorming and open discussion. Participants who attended the session were asked to address the following:

- What are the Town's strengths and assets in terms of its Open space and Recreation facilities and programs?
- What are the community's weaknesses and liabilities in this regard?
- What opportunities does the Town have to improve upon or expand its existing open space and recreation facilities and programs?
- What challenges lie ahead? What concerns need to be addressed in order to move forward to meet the Town's open space and recreation needs?

In addition, a breakout session was included as part of the Visioning exercise where attendees mapped the town's scenic resources, located the open spaces and recreation areas that they visited most frequently on a map, and identified additional locations that the Town should acquire or protect in the future. The agenda for the Visioning Session and the Visioning Session Summary can be found in Appendix D. A more detailed discussion of the Visioning Session can also be found in Section 7 of this document.

On Month/day, 2018, following the completion of the Draft 2018 Open Space and Recreation Plan, a public meeting was held to present an overview of the Plan and receive comments and feedback. A copy of the agenda and meeting notice for the Public Meeting can be found in Appendix F, along with a summary of the comments received. In addition, the Draft Open Space and Recreation Plan was presented and discussed at meetings of the Conservation Commission, Planning Board and Board of Selectmen.

#### C. Accomplishments Since 2009

The Town of Tewksbury has accomplished many of the actions identified in the 2009 Open Space and Recreation Plan. These accomplishments are outlined below under each goal area contained within the 2009 Open Space and Recreation Plan Action Plan.

## Goal 1: Preserve and protect the rivers, brooks, ponds, wetlands, and floodplain in Tewksbury

- Two flyers were distributed to town residents. The first flyer, "Living with Wetlands", highlights the importance of wetlands and describes why they are protected. The second flyer educates homeowners on lawn and landscape management practices, stressing the importance of the judicious use of lawn chemicals, such as fertilizers and pesticides.
- A buffer zone report was prepared by the Conservation Commission, and published on the Town's website. This document is intended to assist the Town in implementing future changes to its wetland bylaw, given that the report indicates that existing requirements may not be adequate to sufficiently protect wetland resources.
- Upland buffer zone areas have been identified for protection.
- Areas around the town's ponds and rivers have been identified for acquisition, but priorities have not been established to date.
- In 2013, the Conservation Commission acquired property located at 2000 Whipple Road. Given its proximity to the Shawsheen River, the property serves as a riparian buffer and has potential for conservation and recreation use.
- The BMPs outlined in the Long Pond Study have been implemented. In 2015, The Tewksbury Community Development Department and Department of Public Works received a 319 Non-Point Source Pollution Grant for Long Pond. Through this grant, the Town prevented Long Pond, one of the Town's most important natural resources, from reaching a hyper-eutrophic state. This grant funding was used to educate residents on non-point source pollution. The grant was also used to construct 15 rain gardens and 8 stormwater treatment swales, and to install 23 informational signs at each BMP, along with a master sign showing a map of all the BMPs. In celebration of Earth Day, two events are held during the year to maintain these areas.
- Water quality testing was conducted for Long Pond in 2015, 2016 and 2017, leading
  to treatment for cyanobacteria and e. coli. Funding is being requested from Town
  Meeting to continue this treatment. Access to Long Pond is being improved through
  strategic clearing for access. A list of septic facilities along the Pond has also been
  developed.

- In 2016, Town Meeting appropriated \$35,000 in CPA funds for Long Pond Water Quality improvements to address nutrients, algae and aquatic weeds. In addition, \$23,500 was appropriated in 2017.
- The Conservation Commission worked closely with the Board of Health to address beaver issues, and a relationship has been established with Massachusetts Mosquito Control to manage drainage areas.
- As part of the public outreach program for the NPDES permit, staff members of the Engineering division staffed a booth at the Earth Day Fair on the Town Common with public outreach materials and demonstrations, using the EnviroScape model.
- The Town of Tewksbury, along with 12 other neighboring communities, joined the Northern Middlesex Stormwater Collaborative (NMSC), a regional stormwater organization that undertakes many public education, procurement, management and administrative tasks necessary for managing stormwater in the Northern Middlesex region.

## Goal 2: Preserve and protect the town's natural resources and outstanding natural features for future generations

- The Town of Tewksbury has formulated and implemented an I/I identification and reduction program. The Engineering Division assessed the condition of the entire sewer system and identified priority areas by using smoke testing, video pipe inspections or flow metering.
- The town staff "dry weather" tested all stormwater outfalls within the community.
- In 2011, Town Meeting accepted open space donations from two development projects: Ames Run and Triple Lee Estates.
- In 2014, the Town acquired a 7.1 acre parcel associated with the Wells Estate subdivision
- The Town was awarded a FEMA Hazard Mitigation Grant to fund the slip lining of the culvert that carries Trull Brook under River Road. This project also included slope stabilization on the embankments from River Road to Trull Brook.
- The Town of Tewksbury was awarded a FEMA Hazard Mitigation Grant to fund the installation of emergency electrical generators on 12 of its 46 Sewer Pump Stations.
- The Sutton Brook Superfund site has been remediated since completion of the last Plan. In 2015, Town Meeting appropriated \$5 million dollars toward the closure and remediation, in accordance with the 2009 potentially responsible parties agreement.
- In 2015, Town Meeting voters transferred the Bligh Parcel (92-33) to the Conservation Commission to protect two vernal pools discovered during a Wildlife Habitat Study.

### Goal 3: Provide accessible, well-balanced recreation opportunities for all town residents

- Five new tennis courts were constructed at the High School at a cost of \$375,000. This project was funded with CPA monies and brings the total number of courts across town to eight.
- In 2013, Town Meeting appropriated \$600,000 in CPA funds to construct a new athletic complex at the high school. Matching funds for this project were provided through a PARC grant and by private funds were contributed by the Friends of the Tewksbury Athletic Complex.
- In 2013, \$150,000 in CPC funds were appropriated to replace playground equipment at the elementary schools with new accessible age-appropriate equipment. Some DPW and School Department resources were also used to complete the project. Construction was completed in 2016.
- In 2014, Town Meeting appropriated funds to improve ADA accessibility at the Senior Center.
- 2014 Town Meeting appropriated funds in the amount of \$120,000 to pave the parking area at Strong Field.
- ADA accessibility improvements were constructed at Livingston Street Park. Improvements were made to the shade area, new structures were installed, and new ground surface and asphalt walkways were created. CPC funds, in the amount of \$200,000, were appropriated for the renovation, which was completed in 2014.
- The Conservation Commission appropriated funding in 2017 to provide landscaping and picnicking facilities along the Shawsheen River at 2000 Whipple Road. The Friends of 2000 Whipple Road plan to create a kayak launch at this location.

## Goal 4: Ensure adequate maintenance of conservation areas, open spaces and recreation facilities in the interest of protecting the town's investment and reducing long-term costs

- In 2013, Town Meeting appropriated \$24,000 in CPA funds to repair the Recreation Center roof.
- In 2014, Town Meeting appropriated CPA funds in the amount of \$70,000 for the rehabilitation of Wamesit Park, and \$50,000 to rehabilitate Muster Park. Walmart donated \$25,000 in matching funds for the improvements at Wamesit Park. In 2016, Town Meeting appropriated an additional \$38,000 to complete the Wamesit Park project.
- In 2015, Town Meeting appropriated \$202,125 in CPA funds to rehabilitate Strong Field. Improvements included the replacement of fencing and the baseball back stop, improving the infield clay, grass, and pitching mound, replacing bleachers with

- ADA accessible seating and modifying the outfield for use by other sports programs, such as field hockey and lacrosse.
- In 2015, Town Meeting also appropriated \$200,000 in CPA funds to rehabilitate the Livingston Street Recreation Area fences.
- In 2016, Town Meeting appropriated \$6,800 in CPA funds to install a drainage system at the high school tennis courts.

## Goal 5: Educate the town's residents regarding the importance of open space and recreation area to the town's quality of life-encourage enjoyment, use, and stewardship

- The first Farmer's Market was established in 2013, to promote support for local agriculture and to increase access to local food.
- Free family concerts have been held since 2014.
- Two kiosks are being installed on the State Hospital land to provide information on the trails and on the historical cemetery.
- Since completion of the last plan, Town Meeting has appropriated \$200,000 annually to support summer recreational programs for youth through the School Department's Office of Community Services.
- The town has educated residents on the importance of open space and recreation through trail walks, Earth Day events, and by having a presence at the community events, such as the Farmer's Market.

#### Goal 6: Preserve important historical and archeological sites

- The Town's Demolition Delay Bylaw was updated at the 2011 Annual Town Meeting, to extend the previous delay period of six months to nine months.
- In 2011, an historic survey was completed utilizing Community Preservation Act funds.
- The Town restored and rehabilitated the historic 1917 Town Hall building at a cost of \$6.1 million. The project was funded with Community Preservation Act resources.
- The Livingston Street State Cemetery was preserved using appropriations provided through the 2009 Special Town Meeting, 2010 Annual Town Meeting, and 2016 Special Town Meeting.
- The Ella Flemings School, located at 1503 Andover Street and originally constructed in 1859, was rehabilitated at a cost of \$275,000, using Community Preservation Act funding.
- In 2014, the Historical Commission worked with the Community Preservation Committee on a Preservation Restriction for the Marshall Homestead. In 2015, Town Meeting voters appropriated \$31,500 for the Preservation Restriction. The

2017 Annual Town Meeting appropriated \$50,000 to develop a use plan for the property.

#### Goal 7: Enhance and protect the scenic and aesthetic character of the town

- In 2013, Town Meeting appropriated \$7,500 in CPA funding to preserve and restore the Mico Kaufman Wamesit Indian Statue. These funds were matched by a grant from the Massachusetts Cultural Council.
- In 2014, Town Meeting appropriated funding to establish an "Adopt an Island" program.
- The Town implemented Town Center Design Guidelines and Town Center Overlay Zoning District.
- The Town established the Tewksbury Beautification Committee, which conducts two clean up events each year, and has undertaken a switch box (i.e. traffic signal controller box) beautification project.
- In 2016, Town Meeting appropriated \$3,800 to rehabilitate the Mico Kaufman World War II Memorial located on the Town Common.

## Goal 8: Work with the regional, federal, and state agencies, and non-profit organizations to develop a trail network linking open spaces within Tewksbury, as well as establishing linkages to other trail facilities located in adjoining communities

- In 2013, the Board of Selectmen established the Bicycle and Pedestrian Advisory Committee.
- In 2016, Town Meeting appropriated \$250,000 for sidewalk improvements.
- A Rail Trail Feasibility Study was funded by Town Meeting in 2013 at a cost of \$35,000. The study investigated options for developing trails within town-owned land, and along an abandoned rail right-of-way. Connections to regional trails, such as the Bay Circuit Trail were also examined, along with connections to adjacent communities.
- The Town has continued to work with the Bay Circuit Alliance and the Appalachian Mountain Club on planning and design of the Bay Circuit Trail, by gaining permission to cross the State Hospital land and approving signage for the trail.
- In 2015, Town Meeting appropriated \$45,000 in CPA funds to retain an attorney/ consultant to perform a title search and other relevant work needed to implement the recommendations outlined in the Rail Trail Feasibility Study. This project was completed in 2017.
- In 2016, Town Meeting appropriated \$12,000 in CPA funds for the Bay Circuit Trail Boardwalks, in order to connect seven miles of walkable trail with trails in Billerica and Andover. In 2017, \$35,000 was appropriated for survey work and demarcation, and \$15,000 was allocated for trail improvements such as boardwalk and kiosks.

• In 2016, the Town submitted a Letter of Intent to become a "Complete Streets" community. The program would provide funding for bicycle and pedestrian accommodations through MassDOT. The Town has hired TEC as the consultant for this project.

#### Goal 9: Protect the Merrimack River as the town's water supply

- A new Municipal Stormwater Discharge Bylaw was adopted at the 2010 Annual Town Meeting.
- In 2010, additional instrumentation was installed at the Water Treatment Plant to better monitor water quality issues during low flow conditions on the Merrimack River.
- In 2011, Town Meeting approved amendments to the Town's Stormwater Management and Erosion Control Bylaw in order to comply with the Clean Water Act and NPDES requirements.
- The town's Floodplain Overlay District bylaw was amended to reflect revisions to the FEMA FIRM maps and to meet National Flood Insurance Program (NFIP) requirements.
- The Town completed the town-wide Sewer Expansion project.
- Numerous drainage and stormwater improvements were implemented, including the replacement of a failed culvert on East Street.
- The Town implemented outdoor watering restrictions during the summer months and during periods of drought.
- Stormwater Pollution Prevention Plans (SWPPPs) were developed for each municipal facility.
- The Town constructed a new salt storage building.

### Goal 10: Promote efforts to preserve and protect open space for conservation, agriculture, and active and passive recreational needs

- The 2010 Annual Town Meeting approved the filing of special legislation to transfer ownership of the Livingston Street recreation fields from the State to the Town. The legislation was needed to perfect a previous transfer authorized under Chapter 497 of the Acts of 1967. In 2016, Town Meeting voted to accept the deed to this property.
- In 2013, the Open Space and Recreation Development bylaw was amended to modify the requirements relative to the ownership of designated open space.
- In 2013, Town Meeting accepted an open space donation of 8.7 acres associated with the Long Pond Village subdivision.

•	In 2016, Town Meeting accepted a land donation of 1.1 acres on Merrimac Drive next to the town's Water Treatment Plant.							

#### **Section 3: Community Setting**

#### A. Regional Context

The Town of Tewksbury is located within Middlesex County, approximately 25 miles northwest of Boston, at the junction of I-495 and I-93. This convenient interstate highway access has benefited the town's economy but has also created pressure on the municipal infrastructure and impacted land use practices and policies. Once a rural agricultural community, the town is now considered an economically mature suburb. Map 1 on the following page depicts the location of Tewksbury in relation to the Northern Middlesex region and the Commonwealth.

The town is bordered on the north by the Merrimack River and the Town of Dracut, on the northeast by the Town of Andover, on the southeast by the Town of Wilmington, on the southwest by the Town of Billerica, and on the west by the City of Lowell. The Merrimack River forms part of the northern boundary and supplies the town's drinking water. The Concord River touches the western most portion of town, while the Shawsheen River runs through the southern end of town. These rivers serve as vital recreation resources for boaters, canoeists, anglers, bird watchers and wildlife enthusiasts.

Among the town's unique features is the convergence of three watersheds: Concord (SuAsCo), Merrimack, and Shawsheen, and it lies within four watershed basins: Merrimack, Concord (SuAsCo), Shawsheen and Ipswich. There are four major streams in town: Heath Brook, Sutton Brook, Strongwater Brook (which flow into the Shawsheen River), and Trull Brook (which flows into the Merrimack River). Open water, wetlands and streams constitute about 22.5% of the town's total area and have played a major role in the town's development patterns. The town's largest contiguous wetland system, the Great Swamp, comprises the large undeveloped area between North Street, Main Street and I-495. According to the Massachusetts Department of Environmental Protection, Long and Round Pond are classified as Great Ponds.

Tewksbury is approximately 21.1 square miles in area and is home to approximately 29,000 residents. The Town Hall is at an elevation of 120 feet above sea level. Land uses include a diverse mix of residential, industrial, commercial, and agricultural districts interspersed throughout the community. As outlined in the Town's Master Plan, more than half of the existing tax parcels are used for residential purposes.<sup>2</sup> Institutional uses make up 21% of existing parcels, and approximately 6% of existing parcels are used for commercial and industrial purposes.

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<sup>&</sup>lt;sup>2</sup> Tewksbury Master Plan, 2016, prepared by RKG Associates, McMahon Engineering and Northern Middlesex Council of Governments, p. 16.

MAP 1 Placeholder-Locus

#### B. History of the Community

Tewksbury is a suburban community perched in the uplands between the Merrimack and the Concord Rivers. The Wamesit tribe, who lived in the Shawsheen River Valley, and the European settlers that came to the area, shaped the evolution of community. Named after the Town of Tewkesbury, England, the town was first settled in 1637, and established in the area formerly known as Wamesit in 1734, when the town was officially incorporated from Billerica. The Massachusetts Historical Commission has identified approximately two-dozen sites of possible archaeological significance that date back to these early inhabitants.

The town was gradually settled during the early decades of the 18<sup>th</sup> century. The early economic base depended on farming and grazing, with lumbering as a secondary activity. A sawmill was established on Trull Brook in about 1736.

By the early 19<sup>th</sup> century, the Lee Family Tannery was built and continued in operation throughout the century. The agricultural economy of the town shifted toward commercial activities due to the community's proximity to Lowell. In 1854, the State opened the almshouse, one of three established by the General Court. The complex of buildings housed one thousand inmates.

Some of Tewksbury's most unique resources exist because of the Town's rural history. Tewksbury was once well known for its rural character, including its proximity to Silver Lake in neighboring Wilmington. In the early 1900s, South Tewksbury became a haven for Boston residents as a summertime camp area. People would often buy property near Silver Lake and vacation in the summer months. Greenhouses and market gardens emerged as the town's primary businesses between 1890 and 1915, producing flowers for sale to the city markets. In fact, Tewksbury was nicknamed the "Carnation Capital of America." Even today, several remaining greenhouses offer a unique horticultural environment rich in historic value.

Most of Tewksbury's oldest homes are located in the northwest, west and central sections of the town. A number of 18<sup>th</sup> and early to mid-19<sup>th</sup> century residences can be found on River Road, Main Street, East Street, Whipple Road and Rogers Street. Until the 1940s, the residential growth in Tewksbury occurred mainly along these roadways, with the exception of South Tewksbury between Main, South and Brown Streets and the Wilmington town line, where very small house lots were laid out during the 1920s.

Tewksbury was further transformed by two decades of very high growth following World War II. Subdivisions consumed significant portions of the town's agricultural land. During the 1950s, a considerable amount of housing development occurred along Chandler Street and Foster Road. By the 1960s, large outlying tracts of land were developed as residential

subdivisions. This trend continued until the mid-1970s when the demand for housing began to stabilize.

To preserve the Town's historic resources, the Tewksbury Historical Commission engages in various projects directed at helping safeguard and promote the stewardship of historic properties. Examples include administration of the town's Demolition Delay By-Law in an effort to protect historically significant structures that may be targeted for demolition. The By-Law, although a useful tool, can only offer limited protection.

Tewksbury State Hospital and the Cyrus Battles House on North Street are listed on the State Register of Historic Places. The buildings at Tewksbury State Hospital are also listed on the National Register of Historic Places. Nearly sixty historic buildings and landmarks were identified in the Town's Master Plan. Table 1 below contains a listing of these properties.

Ames Castle (c. 1800s) on Catamount Road was demolished in 2013. Most recently, the Historic Commission has issued the David Carter House (1780) at 1574 Main Street, a permit for demolition. The Colonel Russell Mears House, 1269 Main Street, is currently in the hearing process with the Historic Commission under the demolition delay bylaw.

**Table 1: Historic Buildings and Landmarks** 

Name	Location	Date Constructed
Abram Mace House	219 Old Main Street	1780
Benjamin Burtt Homestead	1304 South Street	1800
Brown Homestead	1202 Main Street	1800
Captain Trull Monument	Corner of River and Trull Roads	NA
Centre Burial Ground	East Street	c. 1850
Chandler House	1269 Main Street	1777
Clark House	912 Shawsheen Street	1780
Colonel Russell Mears House	592 Main Street	1780
Cyrus Battles House	1002 North Street	NA
Dunn House	687 Shawsheen Street	NA
Flemings Homestead	922 North Street	1800
Foster School	Main Street	1894
George Trull House	1515 Andover Street	1878
Gerald Carrigg House	574 Chandler Street	NA
J. Carter House	142 Carter Street	NA
Jefferson Soap Factory site	Main Street	NA
Kendall Homestead	Kendall Road	NA
Livingston Homestead	518 Kendall Road	NA
Maillet Farmhouse	728 Whipple Road	1800
Melvin Rogers Home	272 Whipple Road	NA
O.R. Clark Homestead	1400 Andover Street	1800
Oblate Novitiate	Chandler Street	1883
Old Railroad Bridge ruins	Shawsheen River south of Shawsheen	NA
	St.	
Olive Roberts Farmhouse	360 North Billerica Road	NA
Original Parsonage	1448 Andover Street	1846

Table 1 (cont'd): Historic Buildings and Landmarks

Table 1 (Cont u): Historic buildings and Landinarks								
Name	Location	Date Constructed						
Osterman's Dairy	98 North Billerica Road	1872						
P. Livingston House	166 French Street	NA						
Paul O'Laughlin House	721 Shawsheen Street	NA						
Powder Mill Explosion site	NA	1900						
Preston Homestead	107 Pleasant Street	1775						
Rev. Jacob Coggin	1039 Main Street	1806						
Homestead/Sycamore Hall								
Rev. Spaulding Homestead	60 East Street	1736						
Robert Rauseo	682 Chandler Street	NA						
Saw Mill Site	Shawsheen Street	c. 1736						
Shawsheen Cemetery	Corner of Main and Shawsheen Streets	c. 1714						
Tewksbury State Hospital	East Street	1854						
Tewksbury Country Club	1880 Main Street	NA						
The Brown Tavern	993 Main Street	c. 1740						
The Colonel Russell Means	592 Main Street	1780						
House								
The Crosby Canning Factory	922 Whipple Road	NA						
The Ella Fleming School	Andover Street	1744						
The Enoch Foster House	43 Dewey Street	NA						
The First Baptist Church	1500 Andover Street	1843						
The G. French Homestead	27 Carter Street	c.1800						
The George Lee House	53 Lee Street	1805						
The Hardy Homestead	496 Main Street	1740						
The Jonathan Clark Homestead	Andover Street	1800						
The Life Farmer Homestead	1472 Andover Street	1744						
The Marshall Homestead	379 Pleasant Street	1728						
The Pike House	464 Main Street							
The Stone House	55 East Street	c. 1850						
The 911 Memorial	Tewksbury Public Library, Main Street	NA						
Widow Bailey House	219 River Road	1800						
World Wars Monument	Main Street	NA						

Source: Tewksbury Master Plan, 2016 and Tewksbury Historical Commission

#### C. Population Characteristics

During the past fifty years, the population of the Town of Tewksbury has grown faster than the region as a whole. According to the *Regional Strategic Plan for Greater Lowell (2011)*, the population in the Greater Lowell region grew by 70% between 1960 and 2010, from 169,403 to 286,901, or an average of 14% per decade. During the same time period, Tewksbury's population increased from 15,902 residents in 1960 to 28,961 residents in 2010, or by 82.1%. As reflected in Table 2 below, Tewksbury's growth rate decreased from 5.8% between 1990 and 2000 to 0.4% between 2000 and 2010. This growth rate lagged behind the regional growth rate of 2% between 2000 and 2010. Tewksbury's 2010 population represented 10.1% of the total population for the Northern Middlesex region, which was a slight decrease from 10.3% in 2000.

Based upon the population figures in the 2011-2015 ACS, Tewksbury's estimated population was 30,115, while the most recent population estimates for 2015 placed Tewksbury at 30,915 residents, which shows that Tewksbury is nearly at the 2040 population of 31,397 projected by MassDOT. These projections reflect the growth in housing units over the past five years. Projected growth rates suggest that Tewksbury and the Greater Lowell region will grow at a similar rate with a slight edge to Tewksbury by 2040. Therefore, Tewksbury's population is projected to grow slightly as a percent of the region, from 10.1% of the region's population in 2010 to 10.2% in 2040.

Table 2: Actual and Projected Population (2000–2040)

Year	Tewksbury	<b>Growth Rate</b>	Greater Lowell region	<b>Growth Rate</b>	Tewksbury as a Percent of Region
2000	28,851	5.8%	281,225	6.7%	10.3
2010	28,961	0.4%	286,901	2.0%	10.1
2020	29,436	1.6%	291,101	1.5%	10.1
2030	29,980	1.8%	295,370	1.5%	10.1
2040	31,397	4.7%	306,913	3.9%	10.2

Source: 2000 and 2010 US Census; Projections developed by Mass DOT with input from NMCOG

#### D. Households and Household Types

Similar to the population projections, MassDOT developed household projections with input from NMCOG as part of the long-range transportation planning process. As outlined in Table 3 below, the number of households in Tewksbury is projected to increase from 10,492 households in 2010 to 12,998 households in 2040, or by 23.9%. For the same time period, the Greater Lowell household growth rate is projected to be 20.9%, which is slightly less than Tewksbury's growth rate. The overall household growth rate has slowed considerably from the 1990-2000 period, yet the period from 2010-2020 shows the greatest projected household growth for Tewksbury and the Greater Lowell region. Tewksbury's share of the region's households is projected to remain steady, from 10% in 2010 to 10.3% in 2040.

Table 3: Total Number of Households (2000-2040)

Year	Tewksbury	Growth Rate	Greater Lowell region	Growth Rate	Tewksbury Households as a Percent of the Region
2000	9,964	14.0%	99,342	10.5%	10.0
2010	10,492	5.3%	104,022	4.7%	10.1
2020	11,560	10.2%	113,223	8.8%	10.2
2030	12,319	6.6%	119,635	5.7%	10.3
2040	12,998	5.5%	125,795	5.1%	10.3

Source: 2000 and 2010 U.S. Census; Projections developed by Mass DOT with input from NMCOG

Household types are divided into two categories: family and nonfamily. In a family household, those who occupy a housing unit are related by birth, marriage or adoption, whereas in a non-family household, those who occupy a housing unit are not related (e.g. roommates). According to the 2010 U.S. Census, 74.5% of the 10,341 households in Tewksbury were family households, as outlined in Table 4 below. The percentage of family households decreased to 72% based upon the 2011-2015 American Community Survey.

**Table 4: Household Types (2010 and 2011-2015)** 

Household Type	20	010	2011-2015		
	Number	Percentage	Number	Percentage	
Family households	7,704	74.5	8,058	72.0	
Nonfamily households	2,637	25.5	3,141	28.0	
Total	10,341	100.0	11,199	100.0	

Source: 2010 U.S. Census and 2011-2015 American Community Survey

#### E. Population Age Distribution

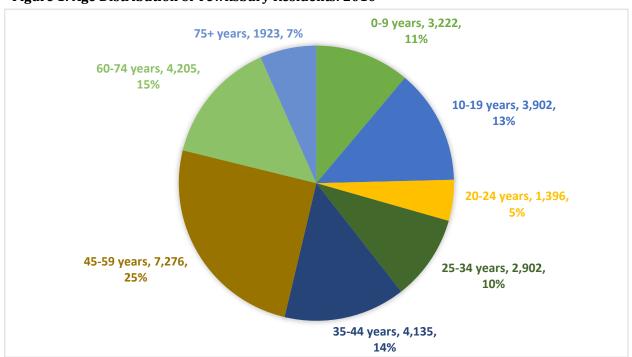
Table 5 on the following page illustrates the breakdown of Tewksbury's population by age cohort in 2000, 2010, and 2011-2015. This data shows the decrease in the 0-9 (-23%), 25-34 (-25.9%), and 35-44 (-25.3%) age cohorts between 2000 and 2010. Every other age cohort increased with the most significant increases reflected in the 75+ (38.8%), 60-74 (35.4%), 45-59 (23.2%) and 20-24 (14.6%) age cohorts. The largest age cohort in 2010 and 2011-2015 was the 45-59 age cohort at 25.1% and 25.4% respectively. The second largest age cohort in 2010 and 2011-2015 was the 60-74 age cohort at 14.5% and 15.6% respectively. However, the important factor to consider is the overall growth trend among age cohorts to determine the need for specific types of facilities and program. With the overall decline in the 0-9 age cohort and the increase in the 60-74 and 75+ age cohorts, particular attention needs to be paid to facilities and programs for seniors and for those with disabilities. Tewksbury has also attracted young families in the 20-24 and 25-34 age cohorts since 2010, whose needs should also be addressed. Figures 1 and 2 compare the age distribution data between 2010 and 2011-2015 in pie chart form.

Table 5: Age Distribution of Tewksbury Residents: 2000, 2010 and 2011-2015

2000		20	2010 Per		Percent 2011-2015			
Age Group	Number	Percent	Number	Percent	change 2000- 2010	Number	Percent	change 2010- 2011/2015
0-9 years	4,183	14.5	3,222	11.1	-23.0	2,898	9.6	-10.1
10-19 years	3,599	12.5	3,902	13.5	8.4	3,990	13.2	2.3
20-24 years	1,218	4.2	1,396	4.8	14.6	1,583	5.3	13.4
25-34 years	3,917	13.6	2,902	10.0	-25.9	3,671	12.2	26.5
35-44 years	5,537	19.2	4,135	14.3	-25.3	3,547	11.8	-14.2
45-59 years	5,906	20.5	7,276	25.1	23.2	7,650	25.4	5.1
60-74 years	3,106	10.8	4,205	14.5	35.4	4,697	15.6	11.7
75+ years	1,385	4.8	1,923	6.6	38.8	2,079	6.9	8.1
Total	28,851	100.1	28,961	99.9	0.4	30,115	100.0	3.7

Source: 2000 and 2010 U.S. Census; 2011-2015 American Community Survey

Figure 1: Age Distribution of Tewksbury Residents: 2010



Source: 2010 U.S. Census

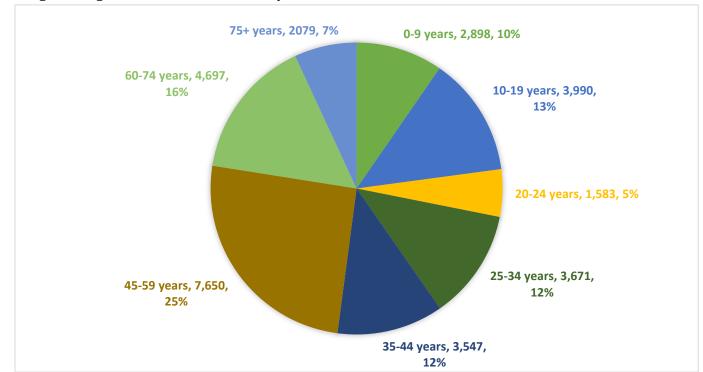


Figure 2: Age Distribution of Tewksbury Residents: 2011-2015

Source: 2011-2015 American Community Survey

With input from NMCOG, MassDOT developed 2016 population projections for Tewksbury for 2020, 2030 and 2040. Using these projections, Tewksbury's total population is estimated to increase by 8.4% between 2010 and 2040. To determine the projected age distribution of Tewksbury's future residents, NMCOG used available data from the Metro Future age cohort breakdowns and then applied them to the MassDOT projections. This data provides a useful indication of the future age distribution of Tewksbury residents, and is shown in Table 6 on the following page.

Table 6: Projected Age Distribution of Tewksbury Residents (2020-2040)

Age Groups	20	20	20	30	204	40	Percent
	Number	Percent	Number	Percent	Number	Percent	Change 2020 - 2040
0-9 years	3,668	12.5	3,815	12.7	3,975	12.7	8.4
10-19 years	3,085	10.5	2,970	9.9	3,099	9.9	0.5
20-24 years	1,601	5.4	1,439	4.8	1,482	4.7	-7.4
25-34 years	3,144	10.7	2,883	9.6	2,823	9.0	-10.2
35-44 years	3,824	13.0	4,433	14.8	4,797	15.3	25.4
45-59 years	6,848	23.3	5,833	19.5	5,623	17.9	-17.9
60-74 years	5,791	19.7	6,487	21.6	6,942	22.1	19.9
75+ years	1,475	5.0	2,120	7.1	2,656	8.5	80.1
Total Population	29,436	100.1	29,980	100.0	31,397	100.1	6.7

Projections developed by MassDOT with input from NMCOG. Age cohorts provided by Metro Future, Metropolitan Area Planning Council.

The projected age distribution of Tewksbury residents reflects the decline in the 45-59 (-17.9%), 45-59 (-10.2%) and 20-24 (-7.4%) age cohorts and the increase in the youth (0-9 and 10-19), young families (35-44) and elderly (60-74 and 75+) populations. These projected changes in the age cohorts will have an impact upon the needs of the community. The decline in the 45-59 age cohort and the increase in the youth, young families and elderly population needs should be addressed through the development of facilities and programs. Special attention will also need to be paid to the needs of seniors with nearly a third of (30.6%) of the population projected to be 60 years or older in 2040.

#### F. Race and Ethnicity

Table 7 breaks down the Town's population by race and ethnicity for 2000, 2010 and 2011-2015. In assessing the racial and ethnic changes in the Town's population, Tewksbury's population is more diverse than it was in 2000. Although the white population actually increased by 2.4% between 2010 and 2011-2015, its share of the overall population decreased from 96.4% in 2010 to 94.6% in 2011-2015. The Black or African-American population increased by 20.6%, while the Asian community increased by 77.4%. The Native American and Alaska Native population increase by 43.7%. The Hispanic/Latino population in Tewksbury increased by 64.2% between 2000 and 2011-2015.

Table 7: Racial and Ethnic Diversity of Residents (2000, 2010 and 2011-2015)

Racial/Ethnic Category	200	0	2010	0	2011-201	15 ACS	Percent Change
cutegory	Population	Percent	Population	Percent	Population	Percent	2000- 2011/2015
White	27,824	96.4	27,327	94.4	28,489	94.6	2.4
Black or African American	194	0.7	321	1.1	234	0.8	20.6
Native American and Alaska Native	36	0.1	32	0.1	51	0.2	43.7
Asian	460	1.6	786	2.7	816	2.7	77.4
Native Hawaiian or Pacific Islander	2	0.0*	1	0.0**	0	0.0	NA
Other or Multiple Races	335	1.2	494	1.7	525	1.7	56.7
Total Population	28,851	100.0	28,961	100.0	30,115	100.0	4.4
Hispanic or Latino (All races)	352	1.2	602	2.1	578	1.9	64.2

Source: U.S. Census for 2000 and 2010, 2011-2015 ACS. Totals may not add up to 100% due to rounding. \*0.007, \*\*0.003

#### G. Residents with Disabilities

Table 8 provides information about the disabled community in Tewksbury as of 2011-2015. Approximately 10.4% of Tewksbury's population (3,131 residents) were reported to have a disability. More than forty percent (42.3%) of these residents were aged 18-64, 7.9% were under 18 and nearly half (49.8%) were 65 years or older. Ambulatory difficulty was the most prevalent disability (53.5%), followed by independent living difficulty (38.5%), cognitive difficulty (34.6%) and hearing difficulty (31.7%). Disabled residents often have unique needs in terms of the physical design and/or accessibility, access to services, and the cost of participation relative to a fixed or limited income. For these reasons, future planning should be sensitive to the specific needs of the disabled community and incorporate their issues into the goals and strategies for future projects, programs and initiatives.

Table 8: Characteristics of the Disabled Community in Tewksbury: 2011-2015

Age Group and Disability Status	Total Number	Percent of Residents with Disabilities
Under 5 years old	0	0.0
5-17 years old	248	7.9
18-64 years old	1,325	42.3
65+ years old	1,558	49.8
Total Number of Disabled Residents	3,131	100.0
With a hearing difficulty (all ages)	994	31.7
With a vision difficulty (all ages)	504	16.1
With a cognitive difficulty (all ages)	1,082	34.6
With an ambulatory difficulty (all ages)	1,674	53.5
With a self-care difficulty (all ages)	642	20.5
With an independent living difficulty (all ages)	1,206	38.5

Source: 2011-2015 American Community Survey. Residents may report more than one disability

#### H. Household, Family and Per Capita Income

Over the past eighteen years, Tewksbury has seen a significant increase in its median household, median family, and per capita incomes. Within the 2000 U.S. Census, there were income figures provided for each community based upon the 1999 data. Since the 2010 U.S. Census did not include any income data, this plan utilizes the data from the American Community Survey (ACS), which is published in periods of 1-, 3- and 5-year estimates. This document uses the ACS data for 2011-2015. However, since there is a much greater sampling error with the ACS data than the U.S. Census data, the reader should not assume that the data is fully comparable

#### **Median Household Income**

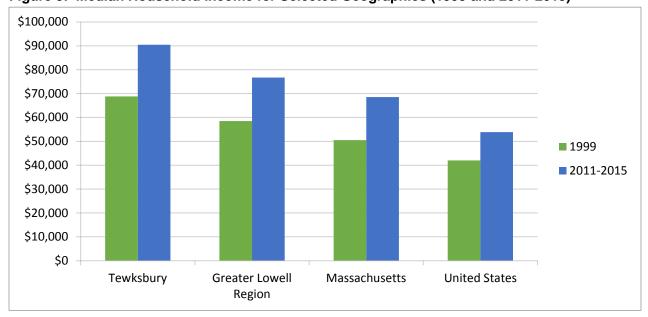
Table 9 and Figure 3 on the following page show the change in median household income between 1999 and 2011-2014 for Tewksbury, the Greater Lowell region, the Commonwealth of Massachusetts and the United States. Tewksbury's median household income increased by 31.5% between 1999 and 2011-2015, which is slightly higher than the Greater Lowell region (31.2%) and the United States (28.3%), but lower than Massachusetts (35.8%). When one applies the inflation factor, whereby \$ 1 in 1999 equals \$ 1.42 in 2015, the median household income declined in all four areas.

Table 9: Median Household Income for Selected Geographies (1999 and 2011-2015)

Geographic Area	1999	2011-2015	Percent Increase	% Inflation Adjusted
Tewksbury	\$68,800	\$90,484	31.5	-7.4
Greater Lowell Region	\$58,472	\$76,728	31.2	-7.6
Massachusetts	\$50,502	\$68,563	35.8	-4.4
United States	\$41,994	\$53,889	28.3	-9.5

Source: 2000 U.S. Census and 2011-2015 American Community Survey

Figure 3: Median Household Income for Selected Geographies (1999 and 2011-2015)



Source: 2000 U.S. Census and 2011 American Community Survey

#### **Median Family Income**

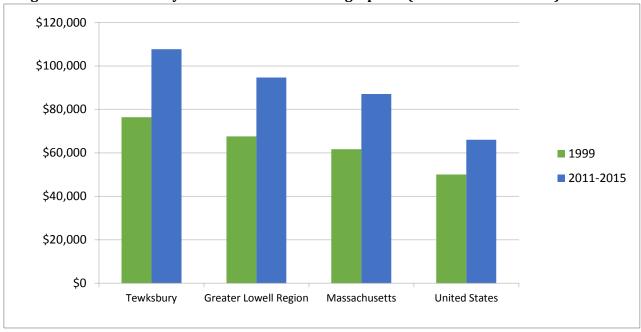
When one reviews the Median Family Income (MFI) figures for 1999 and 2011-2015, there are similarities with the median household income. As shown below in Table 10 and Figure 4, Tewksbury's MFI was higher than the Greater Lowell region, Massachusetts and the United States. The median family income increased in Tewksbury from \$76,443 in 1999 to \$107,734 in 2011-2015 or by 40.9%. When adjusted for inflation, the median family income actually decreased by 0.8% in Tewksbury. The percentage increases in median family income were fairly similar in Tewksbury, the Greater Lowell region, and Massachusetts, but the United States lagged behind. The median family income in Tewksbury continues to be one and a half times that of the United States. When adjusted for inflation, the State had the lowest decline at -1.6%, while the nation experienced a -7.1% decrease in its median family income.

Table 10: Median Family Income for Selected Geographies (1999 and 2011-2015)

Geographic Area	1999	2011-2015	Percentage Increase	% Inflation Adjusted
Tewksbury	\$76,443	\$107,734	40.9	-0.8
Greater Lowell Region	\$67,583	\$94,680	40.1	-1.3
Massachusetts	\$61,664	\$87,085	41.2	-0.5
United States	\$50,046	\$66,011	31.9	-7.1

Source: 2010 U.S. Census and 2011-2015 American Community Survey

Figure 4: Median Family Income for Selected Geographies (1999 and 2011-2015)



Source: 2010 U.S. census and 2011-2015 American Community Survey

#### Per Capita Income

Table 11 and Figure 5 show the changes in per capita income between 1999 and 2011-2015 in Tewksbury, the Greater Lowell region, Massachusetts and the United States. In 1999, Tewksbury's per capita income was \$27,031 – higher than the region, State and country. As of 2011-2015, the Town's per capital income remained higher than the other three areas and increased by 44.5% to \$39,055. When adjusted for inflation, Tewksbury's per capital income actually increased by 1.7%.

Table 11: Per Capita Income for Selected Geographies (1999 and 2011-2015)

Geographic Area	1999	2011-2015	Percentage Increase	% Inflation Adjusted
Tewksbury	\$27,031	\$39,055	44.5	1.7
<b>Greater Lowell Region</b>	\$24,081	\$35,047	45.5	-2.5
Massachusetts	\$25,952	\$36,895	42.2	0.1
United States	\$21,587	\$28,930	34.0	-5.6

Source: 2010 U.S. Census and 2011-2015 American Community Survey

Figure 5: Per Capita Income for Selected Geographies (1999 and 2011-2015)



Source: 2010 U.S. Census and 2011-2015 American Community Survey

#### **Income Distribution**

While median household and median family incomes are valuable indicators, they do not account for the distribution of household incomes in a community. Table 12 compares the household income distribution in Tewksbury in 1999 and 2011-2015. In 1999, approximately 4,922 households (49.4%) earned less than the median household income of \$68,800, with 32.1% earning less than \$50,000 per year. Of the households earning more than the median household income, 23.4% earned between \$100,000 and \$199,999, and 1.5% of all households earned \$200,000 or more per year. In 2011-2015, the median household income was \$90,484. Between 1999 and 2011-2015, the Town experienced a doubling in households making \$100,000 or more (99.2%), with 8% earning \$200,000 or more per year. Most income categories decreased during this period except for the less

than \$ 10,000, \$10,000-\$14,999 and \$15,000-\$24,999 categories and the aforementioned \$100,000+ categories.

Table 12: Income Distribution for Households (1999 and 2011-2015)

	1999 2011-2015		Percent Change		
Household Income	Number	Percent	Number	Percent	1999- 2011/2015
Less than \$10,000	263	2.6	331	3.0	25.9
\$10,000 - \$14,999	313	3.1	371	3.3	18.5
\$15,000 - \$24,999	613	6.2	744	6.6	21.4
\$25,000 - \$34,999	728	7.3	589	5.3	-19.1
\$35,000 - \$49,999	1276	12.8	769	6.9	-39.7
\$50,000 - \$74,999	2,299	23.1	1,679	15.0	-27.0
\$75,000 - \$99,999	1,987	20.0	1,781	15.9	-10.4
\$100,000 - 149,999	2,037	20.5	2,766	24.7	35.8
\$150,000 - 199,999	287	2.9	1,273	11.4	343.6
\$200,000 or more	152	1.5	896	8.0	489.5
Total:	9,955	100.0	11,199	100.0	12.5

Source: 2000 U.S. Census and 2011-2015 American Community Survey

#### **Residents Living in Poverty**

To identify those living on poverty, the U.S. Department of Health and Human Resources and the Census Bureau establish Federal Poverty Guidelines each year, using a set of income thresholds that vary by family size and composition. If a family's total income is less than the threshold, then that family and every individual in it is considered to be living in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index (CPI-U). The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps). Table 13 shows the Federal Poverty Guidelines for 2017.

Table 13: Federal	Poverty Leve	l Guidelines	for 2017
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Number of Persons in Family	Poverty Guideline		
1	\$12,060		
2	\$16,240		
3	\$20,420		
4	\$24,600		
5	\$28,780		
6	\$32,960		
7	\$37,140		
8	\$41,320		
For each additional person	\$4,180		

Source: Department of Health and Human Resources, Federal Register, Vol. 82, No. 19, January 31, 2017, pp. 8831-8832

According to the 2011-2015 ACS, 1,426 Tewksbury residents (approximately 4.7% of the town's estimated population) lived in poverty according to the Federal Poverty Guidelines. As seen in Figure 6, people aged 45-64 comprised 25.8% of the population living in poverty

in Tewksbury. It will be important to consider this population group in order to meet the diverse needs of an aging population.

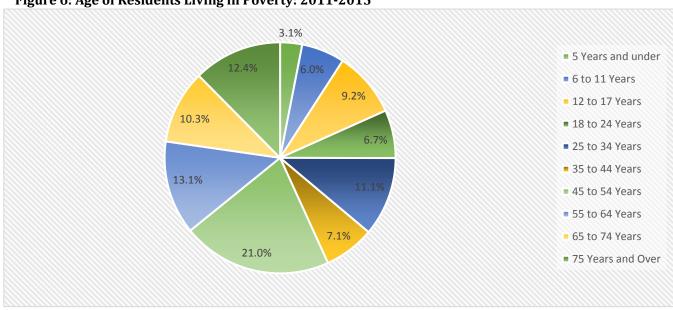


Figure 6: Age of Residents Living in Poverty: 2011-2015

Source: 2011-2015 American Community Survey

In Table 14, the population living in poverty is broken down by age and sex. Those individuals in the "Under 16" category represented 18.3% of the poverty population in Tewksbury. Individuals aged 65 and older represented 22.7% of the poverty population. Women comprised 60.3% of the poverty population, while men comprised the remaining 39.7%.

Table 14: Characteristics of the Population Living in Poverty (2011-2015)

Age	Number Below Poverty Level	Percent of those in poverty
5 Years and under	44	3.1
6 to 11 Years	86	6.0
12 to 17 Years	131	9.2
18 to 24 Years	96	6.7
25 to 34 Years	158	11.1
35 to 44 Years	101	7.1
45 to 54 Years	299	21.0
55 to 64 Years	187	13.1
65 to 74 Years	147	10.3
75 Years and Over	177	12.4
Total Living in Poverty (4.8% of total population)	1,426	100.0
Gender		
Male	566	39.7
Female	860	60.3
Total Living in Poverty	1,426	100.0

Source: 2011-2015 American Community Survey

#### I. Labor Force

The labor force figures for the Town of Tewksbury have changed slightly since 2010. As shown in Table 15 below, the 2010 labor force was 16, 010, and increased to 16,803 by 2016, according to the annual average labor force figures developed by the Executive Office of Labor and Workforce Development. As the nation and State recovered from the Great Recession, the unemployment rate in Tewksbury decreased from 8.0% in 2010 to 3.0% in 2018.

Table 15: Labor Force and Unemployment Rate for Tewksbury, 2010-2016

Year	Labor Force	Employed	Unemployed	Unemployment Rate
2018	17,727	17,197	530	3.0
2017	17,198	16,619	579	3.4
2016	16,803	16,245	558	3.3
2015	16,616	15,882	734	4.4
2014	16,227	15,361	866	5.3
2013	16,110	15,092	1,018	6.3
2012	16,032	15,017	1,015	6.3
2011	15,844	14,743	1,101	6.9
2010	16,010	14,723	1,287	8.0

Source: Executive Office of Labor and Workforce Development

#### J. Place of Work

As shown in Table 16 on the following page, many Tewksbury residents (2,409) choose to work in town, according to the American Community Survey. Other popular work destinations include Boston (1,346 workers), and the surrounding communities of Billerica (952 workers), Burlington (748 workers), Wilmington (738 workers), Lowell (696 workers) and Andover (605 workers).

#### K. Employers

The Executive Office of Labor and Workforce Development publishes a listing of the largest employers in the Greater Lowell Workforce Development Area. The listing is compiled from data provided by InfoGroup headquartered in Omaha, Nebraska. Table 17 on page 32 includes the Tewksbury employers found on the list, which span a wide range of industries. The town's largest employer is Tewksbury Hospital. Tewksbury is also home to the headquarters of Market Basket, a large regional supermarket chain; Raytheon Integrated Defense, a major defense contractor; and ThermoFisher, an electronics manufacturing company. According to the state's database, there are nineteen firms in town that employ one hundred or more employees.

**Table 16: Place of Work for Tewksbury Residents** 

Place of Work	Workers	ry Residents Place of Work	Workers	Place of Work	
Acton town	25	Lexington town	125	Tyngsborough	
Amesbury Town city	8	Littleton town	22	Wakefield town	
Andover town	605	Lowell city	696	Walpole town	
Arlington town	107	Lynn city	45	Waltham city	
Ayer town	30	Lynnfield town	5	Watertown city	
Becket town	14	Malden city	120	Wellesley town	
Bedford town	420	Manchester-by-the- Sea	12	Westborough town	
Billerica town	952	Mansfield town	5	West Bridgewater	
Belmont town	21	Marlborough city	414	Westford town	
Beverly city	36	Maynard town	9	Weston town	
Blackstone town	46	Medford city	194	Westwood town	
Boston city	1,346	Melrose city	43	Wilmington town	
Boxborough town	53	Methuen city	97	Winchester town	
Boxford town	16	Middleton town	38	Woburn city	
Braintree Town city	5	Milford town	8	Worcester city	
Brockton city	12	Natick town	78	New Hampshire	
Brookfield town	14	Needham town	37		
Brookline town	25	Newburyport city	15	Source: 2009-201	
Burlington town	748	Newton city	135	Community Survey	
Cambridge city	449	North Andover	126		
Canton town	50	Northborough	30		
Chelmsford town	313	North Reading	190		
Chelsea city	81	Norwood town	14		
Concord town	122	Paxton town	16		
Danvers town	172	Peabody city	84		
Dracut town	186	Quincy city	6		
Everett city	181	Reading town	65		
Framingham town	135	Revere city	30		
Franklin Town city	10	Rowley town	13		
Georgetown town	53	Salem city	46		
Groveland town	9	Saugus town	49		
Hamilton town	18	Shirley town	14		
Harvard town	8	Somerville city	158		
Haverhill city	93	Springfield city	9		
Hingham town	14	Stoneham town	177		
Hopkinton town	4	Stoughton town	5		
Hudson town	6	Southborough town	11		
Lawrence city	149	Tewksbury town	2,409		
Leominster city	11	Topsfield town	7		

Source: 2009-2013 American Community Survey

Workers

**Table 17: Major Employers in Tewksbury** 

Company	Employees	Industry
Tewksbury Hospital	1,000-4,999	Medical hospital
Raytheon Integrated Systems	Unavailable	Defense contractor
Market Basket	500-999	Supermarket chain
Thermo Fisher	400-500	Electronics manufacturing
Merrill Corporation	250-499	Consulting services
Walmart Supercenter	250-499	Department store
Atamian Volkswagen Honda	100-249	Automotive dealer
Blaire House	100-249	Medical services
Corning Life Sciences	100-249	Medical equipment
Cracker Barrel	100-249	Restaurant
Tewksbury Inn/Holiday Inn	100-249	Hotel
Holt and Bugbie	100-249	Construction materials
Home Depot	100-249	Home improvement store
Kmart	100-249	Department store
Moody, Famiglietti & Andronico	100-249	Accounting
National Grid	100-249	Utility
Tewksbury High School	100-249	Education
Well Pet LLC	100-249	Animal food manufacturing
Worldwide Technical Services	100-240	Consulting services

Source: Executive Office of Labor and Workforce Development, using data provided by InfoGroup

# L. Industry Composition

Tewksbury's diverse spectrum of industries ranges from construction to retail trade to health care and social assistance. In 2016, there were 909 establishments within the town, employing 15,956 workers. The Service-Providing domain is clearly the largest, with 741 establishments employing 11,972 workers. The average weekly wage was \$1,232 for all industries reporting, with the goods producing domain paying the highest weekly wage. Table 18 on the following page summarizes Tewksbury's industry composition.

Table 18: 2016 Employment and Wages by Industry (includes Q1-Q3)

rubie 10. 2010 Employin				
Industry	Establishments	Total Wages	Average Employment	Average Weekly
				Wage
Total, All Industries	909	\$255,500,146	15,956	\$1,232
Goods-Producing Domain	168	106,787,236	3,983	2,062
Construction	138	22,000,790	1,366	1,239
Service-Providing Domain	741	148,712,910	11,972	956
Trade, Transportation and	167	33,486,275	3,270	788
Utilities				
Information	16	2,632,000	99	2,045
Financial Activities	50	7,883,143	416	1,458
Professional and Business	152	48,052,599	2,338	1,581
Services				
Education and Health	165	35,836,016	3,115	885
Services				
Leisure and Hospitality	91	9,280,644	1,841	388
Other Services, Except Public	87	5,443,321	542	773
Admin				
Public Administration	13	6,098,912	352	1,333

Source: ES 202 data---http://lmi2.detma.org

# M. Land Use Development Patterns

Tewksbury can be described as a mature suburb. According to the *2016 Master Plan*, only 12.2% of the total acreage in Tewksbury in 2012 was considered to be undeveloped. The composition of developed land in Tewksbury included residential (52.7%), commercial (5.8%) and industrial (6.1%) according to the Tewksbury Tax Parcel Database. More than 88% of the residential land was comprised of single-family dwellings, while only 10.4% of the total residential land was dedicated to two-family, three-family and condominium dwellings. Although Tewksbury still has room for new growth, the town is largely developed and future land use changes will likely arise principally from redevelopment projects. The Town has seen a number of redevelopment projects implemented along Main Street over the past five years, due to the limited availability of undeveloped land.

Given that the last build-out analysis was completed in 2000, it is difficult to determine the potential changes in residential, commercial and industrial development for the next five years. The Commonwealth of Massachusetts is working with the GIS staff at the regional planning agencies, including NMCOG, to provide updated land use data by community, since the last McConnell Land Use Data update occurred in 2005. The best available data at this point in times is derived from the Tax Parcel Database and is shown in Table 19 on the following page.

**Table 19: Existing Land Use** 

Land Use Category	Percentage	Acreage
Residential	52.7	6,229
Commercial	5.8	628
Industrial	6.1	721
Exempt/Institutional	22.1	2,612
Other/undeveloped	13.3	1,568
Total	100	11,812

Source: Tewksbury Assessor Tax Parcel Database

# N. Zoning

The Town's Zoning Bylaw policies and practices have influenced the development of the community over the past five decades and will continue to impact the quality and appearance of future development and redevelopment of established areas. As shown in Table 20 on the following page, the Tewksbury Zoning Bylaw includes twelve (12) zoning districts, as well as eleven (11) overlay districts. Overlay districts may encourage or limit certain uses within one or more districts, depending on the purpose of a particular overlay.

Two of the overlay districts in Tewksbury are intended to protect environmental resources by regulating development within the floodplain and within the Zone II of a public water supply. Two of the other overlay districts are geared toward roadways and interstates by regulating development within and/or along the Highway Corridor and Interstate Overlay Districts.

The fifth overlay district regulates arts, crafts, and cottage industries in residential neighborhoods along Shawsheen Street, East Street, South Street, Whipple Road and Salem Road. Multi-family dwellings are encouraged in the senior village district/55, by allowing a greater variety of multi-family building types at a higher density than would normally be allowed.

The Town Center Overlay District is intended to: encourage a mix of business, residential, cultural, educational and civic uses; promote compact, pedestrian-friendly development while preserving the historic nature of the area; encourage reuse of existing properties; and increase the town's tax base with small business development and promotion of economic development.

Additional overlay districts include Community Center district, Medical Marijuana district, South Village district, Village Mixed Use district, Village Residential district, and Wireless Communications district.

**Table 20: Land Area by Zoning District** 

Tuble 201 Land III early Lonning District		
Zoning District	Acres	% Area
Commercial (COM)	600.79	4.44
Community Development (CDD)	66.90	.49
Farming (FA)	293.65	2.17
Heavy Industrial (HI)	1,340.99	9.91
Heavy Industrial I (HI1)	39.28	.29
Limited Business (LB)	9.21	.07
Municipal (MN)	448.34	3.31
Multi-family (MFD)	374.79	2.77
Multi-family 55 (MFD/55)	0	0
Office/Research (OR)	472.49	3.49
Park (P)	126.33	.93
Residential 40 (R-40)	9,603.81	70.96
Transitional (TR)	14.16	.10
West Side Business (WNB)	143.55	1.06
Total Zoned Area	13,534.29	100.00

Source: Tewksbury Zoning Map and 2016 Tewksbury Master Plan

As shown on Map, the Town of Tewksbury is predominantly zoned for residential development. The Zoning Bylaw contains four residential zoning districts: Residential 40 (R40), Multiple Family Dwellings (MFD), Multiple Family Dwellings/55 (MFD/55) and the Community Development District (CDD). Except for the CDD District, all residential zoning districts allow single-family dwellings by right. The MFD and MFD/55 districts allow multifamily housing development by Special Permit. The CDD District provides for alternative housing for elderly residents, such as Independent Living and Assisted Living/Long-term Care facilities. Approximately 73% of the Town is zoned for single-family residences, with the four residential zoning districts comprising 73.9% of the total acreage in the community, according to the 2016 Master Plan.

The four major residential zoning districts are described as follows:

- Residential 40 District (R40): The R40 District is designed to accommodate single-family residences as of right. In addition to the traditional single-family residences, cluster development, Open Space Residential Design (OSRD) and family suites are allowed by Special Permit through the Planning Board. The minimum lot area allowed within the R40 District is one acre. In order to be eligible for an OSRD permit, a project must be comprised of no less than 3 acres comprised of contiguous parcels. A minimum of 50% of the development tract must be set aside as open space with no more than 50% of this area comprised of wetlands or land with a grade greater than 25%.
- Multiple Family Dwelling District (MFD): The MFD District regulates multi-family housing developments through eligibility criteria under a Special Permit from the Planning Board. The site must have at least four acres and the MFD project may

Place holder Map 2- zoning

have no more than 100 dwelling units and 15% of these units must be affordable. Single-family dwellings are allowed by right in the MFD District. Special Permits from the Planning Board are required for two-family, multi-family and multi-family over 55 dwellings.

- Multiple Family Dwellings/55 (MFD/55) District: The MFD/55 District is used to regulate the development of multiple family dwellings for persons over 55 years of age by Special Permit from the Planning Board. The MFD/55 site must have a minimum lot area of 12 acres. No more than 150 dwelling units are allowed under an MFD/55 Special Permit with a maximum of 7 units per acre. Projects completed in the MFD/55 District must have 15 percent of the housing units designated as affordable housing. Single-family dwellings are allowed under the MFD/55 District.
- Community Development District (CDD): The CDD District provides elderly housing alternatives to the existing residential, institutional and public housing available in Tewksbury. The CDD District specifically focuses on Independent Living, Assisted Living and Long-term Care Facilities. Site plan approval is required for projects within the CDD District. CDD development must take place on a contiguous lot of at least 12 acres. There is a 65/35 ratio established regarding Independent Living and Assisted Living/Long-term units and a limit of 6 units per acre. An Adult Day Care facility is also allowed under the CDD District.

The residential uses allowed by zoning district are shown below in Table 21.

Table 21: Allowed Residential Uses by Zoning District: 2016

Residential Uses	R40	FA	LB	СОМ	TR	Р	MN	MFD	MFD/55	CDD	HI	HI-1	OR	WNB
Single-Family Dwelling	Υ	Y	Υ	РВ	Υ	N	N	Υ	Y	N	PB	РВ	РВ	РВ
Two-Family Dwelling	N	N	N	N	N	N	N	PB	N	N	N	N	N	N
Multi-Family Dwelling	N	N	N	N	N	N	N	РВ	N	N	N	N	N	N
Multi-Family Dwelling/55+	N	N	N	РВ	N	N	N	РВ	РВ	N	N	N	N	N
Community Development Project	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Cluster Development	PB	N	N	N	N	N	N	N	N	N	N	N	N	N
Open Space Residential Design	PB	PB	N	N	N	N	N	N	N	N	N	N	N	N
Family Suite By Right	Y	Υ	Υ	N	Υ	N	N	N	N	N	N	N	N	N
Family Suite By Special Permit	PB	PB	PB	N	PB	N	N	N	N	N	N	N	N	PB

Source: Town of Tewksbury Zoning Bylaw, June 2016

The Affordable Housing bylaw was developed to outline and implement a set of policies and objectives for the development of affordable housing in compliance with M.G.L Chapter 40B, section 20-23 and various initiative programs developed by state and local government. The housing units developed under the Affordable Housing bylaw are considered Local Initiative Project (LIP) units in compliance with the requirements established by the Department of Housing and Community Development (DHCD).

Tewksbury encourages business and industrial development in five zones: Commercial (C), Limited Business (LB), Heavy Industrial (HI), Heavy Industrial 1 (HI1) and Transitional (TR). Non-residential development in all zoning districts is subject to site plan special permit from the Planning Board. The commercial district runs the entire length of Route 38, except for a small pocket of transitional district land near the intersection of Livingston and Main Street. The Town divides the jurisdiction over development within the commercial district between the Planning Board, the Zoning Board of Appeals and the Board of Selectmen. This district allows several uses by right including retail, restaurants, bed and breakfast facilities, and personal service establishments. Other uses require a special permit from the Planning Board, such as hotel, fast-food restaurants and recreational facilities. The ZBA has authority over special permits for auto storage businesses, membership clubs, and car washes, while the Board of Selectmen is the special permit granting authority for roadside vendors. All business projects require site plan approval by special permit, regardless of whether the use is allowed by right or by special permit.

The TR District occupies a 26-acre area on Route 38. Uses within the district allowed by right include single-family homes, a bed and breakfast, childcare facilities in an existing structure and accessory uses. The ZBA may grant a special permit for personal service establishments and garaging of commercial vehicles, while the Planning Board has jurisdiction over special permits for retail sales, restaurants and fast food outlets.

The LB District is located at the corner of Shawsheen Street, Foster Road and Beech Street. The Zoning Bylaw allows single-family homes by right in the LB District but prohibits traditional commercial uses. Commercial land uses currently occupy about half of the five-acre district.

The HI District is the second largest district in the town. One section of the HI District runs along a portion of East Street from the Andover town line, extends to Pinnacle Road, and crosses Livingston Street. A second section begins in North Tewksbury and follows both sides of I-495 to the Great Swamp. A third area exists adjacent to the Route 38/I-495 interchange, and a fourth lies in the southwest corner of town near the Billerica town line. The prevalence of wetlands hinders the development potential of this district. The average industrial parcel in Tewksbury is 13 acres in size and the average facility is 47,525 for a

floor area ratio of .084, which is quite low in comparison to other communities across the Commonwealth.

The OR District was established based on recommendations from the 2003 Master Plan. The OR District must comply with the dimensional requirements of the HI District. The Planning Board may waive the HI requirements in the Office Research District upon granting a Special Permit.

The Town permits a range of industrial development by right including R&D facilities and machine shops. Other industrial uses are allowed by special permit from the Planning Board including manufacturing, warehouse facilities and freight terminals. All uses are subject to site plan approval by special permit from the Planning Board.

# O. Sewer Capacity

The Town of Tewksbury completed its town-wide sewer construction project in November 2009. The Town currently has more than 180 miles of gravity and forced (pressure) sewer mains, 46 active sewer pumping stations and thousands of sewer man holes. Upon completion of the sewer project, 98% of residential households were connected to sewer. The Town sends its sewerage to the Lowell Regional Wastewater Utility. The Town has continued to upgrade the sewer system, which contains extensive capacity for new development.

# P. Water Supply and Protection

The Town of Tewksbury built its water treatment facility in 1988 and originally treated 3 million gallons per day of drinking water drawn from the Merrimack River. Today, the Town operates a water system comprised of 170 miles of water mains, 1,500 fire hydrants and thousands of water main valves. The treatment plant can now treat up to 7 million gallons of water per day and three water storage tanks store an additional 7 million gallons. More than 10,000 water services are provided to residential (98%), commercial (99%) and municipal (100%) users. New water meters were installed town wide over a four-year period, from 2008 to 2012. During the past five years, several water mains have been replaced in order to upgrade the entire system.

According to the town's Water Department, public water production peaked in 2013, when 894 million gallons of water was produced, or 2.45 million gallons per day, with a peak of 4.562 million gallons per day on July 1, 2013. Water production declined in 2014 (812.3 million gallons) and then increased in 2015 (832.8 million gallons) and 2016 (878 million gallons) as shown in Figure 7 on the following page. The average gallons pumped per day

was 2.28 million in 2015, with a peak of 3.3 million on July 17, 2015 and 2.4 million in 2016, with a peak of 4.2 million on July 3, 2016.

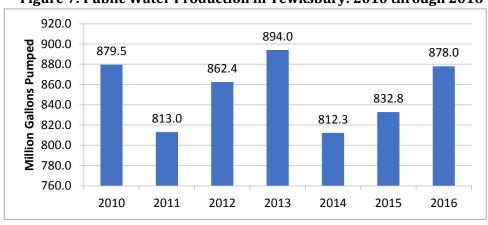


Figure 7: Public Water Production in Tewksbury: 2010 through 2016

Water usage has varied among the different customers as well. In 2015, residential users accounted for 67.5% of the total water consumption, or 51 gallons per person per day, as compared to the commercial (18%) and municipal (2.1%) usage. Residential usage (62.7%) decreased in 2016 (49.6 gallons per person per day). The Tewksbury Public Works Department put into effect a Leak Detection program to determine how much water was being lost. In 2015, that figure was 11%, while it increased to 14.5% in 2016. Both of these figures were below the standard of 15% for water treatment facilities. The Public Works Department has put into effect several conservation programs to ensure efficient water usage.

# **Q.** Transportation Network

Tewksbury is served by a multi-modal regional transportation network comprised of roads, bus routes, commuter and freight rail, and bicycle and pedestrian facilities. Interstates 495 and 93, which provide relative easy access to Boston, the Merrimack Valley and New Hampshire, support the roadway network. In 2016, there were 165.66 centerline miles (323.55 lane miles) of roadway within the town, according to MassDOT.

The local roadway system is built upon the original farming roads of the seventeenth century. The growth of industrial and commercial activity in Lowell and along Routes 128 and I-495 brought development activity to Tewksbury, and the town has now become the home of major technology firms, which are located in numerous office parks along I-495 and I-93.

The Lowell Regional Transit Authority (LRTA) provides bus service (Route 12) from the Kennedy Center in Lowell, along the length of Route 38, to the Wilmington Train Station, Monday through Saturday, as shown on Map 3. On weekdays, the first bus leaves the Kennedy Center at 7 A.M. with subsequent trips every hour until 7:10 P.M. On the return, the first bus leaves the Wilmington Train Station at 6:45 A.M. with subsequent trips every hour until 8:00 P.M. On Saturdays the first bus leaves Kennedy Center at 7:00 A.M. and the last bus leaves at 5:00 P.M. On the return, the first bus leaves the Wilmington Train Station at 7:45 A.M. and the last bus leaves at 5:45 P.M. The LRTA also provides bus service (Route 11) from the Kennedy Center in Lowell via Route 133, to the Internal Revenue Service (IRS) office in Andover on weekdays. Buses leave the Kennedy Center at 6:00 A.M. and 7:00 A.M., as well as at 3:00 and 4:00 P.M. Return trips leave the IRS Facility at 6:30 A.M. and 7:30 A.M., as well as at 3:30 P.M. and 4:30 P.M. Map 2 the shows the actual transit routes. The one-way adult fare for fixed-route bus service is \$1.00 for in-town service and \$1.50 between two or more communities. Seniors and disabled persons are eligible for a 50% discount or a fare of \$0.50 in-town and \$0.75 between two or more communities.

Through agreements with private transportation carriers and the Council on Aging, the LRTA currently provides paratransit services for the elderly and disabled. The LRTA furnishes demand response and prescheduled van service, known as "Road Runner" to eligible clients in Tewksbury. The one-way bus fare is \$1.00 in-town and \$1.50 for travel between two or more communities. These services also include a program with extended service hours, long-distance medical transportation and special transportation services for area nursing homes funded by MassDOT. Additionally, the LRTA offers an expanded paratransit service as part of its Americans with Disabilities Act compliance program.

Commuter rail is an important transportation mode for Tewksbury residents as well. Although there are no train stations in Tewksbury, there is access to train stations at Kennedy Center in Lowell, Wilmington Center and North Billerica. This commuter rail system provides direct access to Boston and Lowell.

Map 3: Tewksbury Transit Routes

# A. Geology, Soils and Topography

Tewksbury is located on slightly rolling lowland terrain, with elevations varying from 85 feet to 200 feet above sea level. The northwestern section of town consists of rolling hills, and the southeastern section is fairly level. The one major exception is Ames Hill, located in the northern area of town. With a summit at 363 feet above sea level, Ames Hill is the highest point in the community. There are also significant areas of low-lying marshland throughout the Town, the largest of which is the Great Swamp located near the Town Center.

Existing landforms were modified first by glacial erosion and then by the deposition of glacial till as ground moraine and scattered drumlins. Later, as the ice melted, debris swept from the ice by meltwater formed a variety of ice-contact landforms, such as kames, kame terraces, kame plains, and ice-channel fillings. With further melting and the disappearance of the ice from the immediate area, melt-water streams spread outwash across the bottoms of the valleys. Thus, the pre-glacial bedrock valleys became partly or completely filled, and the relief of the area was decreased somewhat. A further effect of glaciation was the partial alteration of the pre-glacial drainage pattern. The postglacial streams were established on the valley fill, and therefore coincide only roughly or not at all with the positions of the pre-glacial channels. In places, streams were diverted from one pre-glacial valley to another by dams of ice or glacial drift. The course of the Merrimack River has long been recognized as an example of such a change in drainage.

Glaciation is responsible for the landforms that are seen throughout town. Tewksbury is situated on glacial outwash plain, deltas, and related landforms left behind by the last Ice Age. To the north and west, are upland hills consisting of drumlins and ground moraine. The Town's ponds are kettle lakes, and the soil is sandy or gravelly in many areas, all due to the retreat of the glacier around 10,000 years ago.

# **Geology**

According to the United States Geological Survey (USGS) the Town of Tewksbury consists of the following three (3) Rock B classification types: Granite, Mafic and Metamorphic. Granite and Mafic are *igneous* rocks that are formed from a molten state. Igneous rocks are geologically important in that igneous rocks evolve; they change from one kind of rock into another. Some common igneous rock types found in Tewksbury include granite, quartz, amphibole, monzonite, diorite, and gneiss. These formations are high in magnesium and ferrous iron, and their presence gives mafic rock its characteristic dark color. Mafic rocks

tend to have a low sensitivity to acid deposition, while granite is known for having high concentration levels of radon.

Metamorphic rocks come from the word "metamorphism," which means the alteration of a pre-existing rock (the parent rock) due to heat and pressure caused by burial in the earth. The parent rock must adapt to the new conditions and it does so by changing mineral composition and texture. As with igneous and sedimentary rocks, metamorphic rocks are classified on the basis of texture (grain size, shape, orientation) and mineral composition. Some common metamorphic rock types found in Tewksbury include schist, gneiss, quartz, greenstone and greenschist. Metamorphic rocks range from having a low to high sensitivity to acid deposition, depending on the specific rock type. Map 4 on page 47 shows the surficial geology in Tewksbury.

Throughout town, the depth of bedrock varies greatly. Bedrock is covered by soil, subsoil, and surficial deposits, and is exposed in sections of western and northern Tewksbury. The bedrock divides the town into two drainage basins: Shawsheen and Concord/Merrimack. The northwest region of Town drains into the Concord or Merrimack Rivers, and the southeast region of the Town drains into the Shawsheen River or its tributaries.

## Soils

The glacial deposits provided the parent material from which soils formed. Soil is an important resource that affects hydrology, supports plant life and is critical to agriculture. Soils are vulnerable to erosion, which can influence streams and water quality. Soils are classified according to their origin, formation and identifiable properties. Soils with similar properties comprise a soil association.

There are several soil associations within the town, including Freetown in the wetland resource areas, Windsor-Hinckley-Deerfield covering nearly half the town, Paxton-Woodbridge around till uplands near Ames Pond, and Canton-Hollis-Chatfield on hilly, ledge outcrops. The following soil associations were grouped together based on several soil classifications: Windsor-Hinckley-Deerfield Association; Paxton-Woodbridge Association; Freetown Association; and Canton-Hollis-Chatfield Association. Map 5 on page 48 depicts the various soil types within the Town of Tewksbury.

Soil conditions make about twenty (41.7%) of Tewksbury largely unsuitable for development, and another fifty-six (17.5%) percent of the town is unsuitable for development that relies on on-site traditional sewage disposal methods. Soils information is also used to determine limitations of land areas for recreation and open space activities.

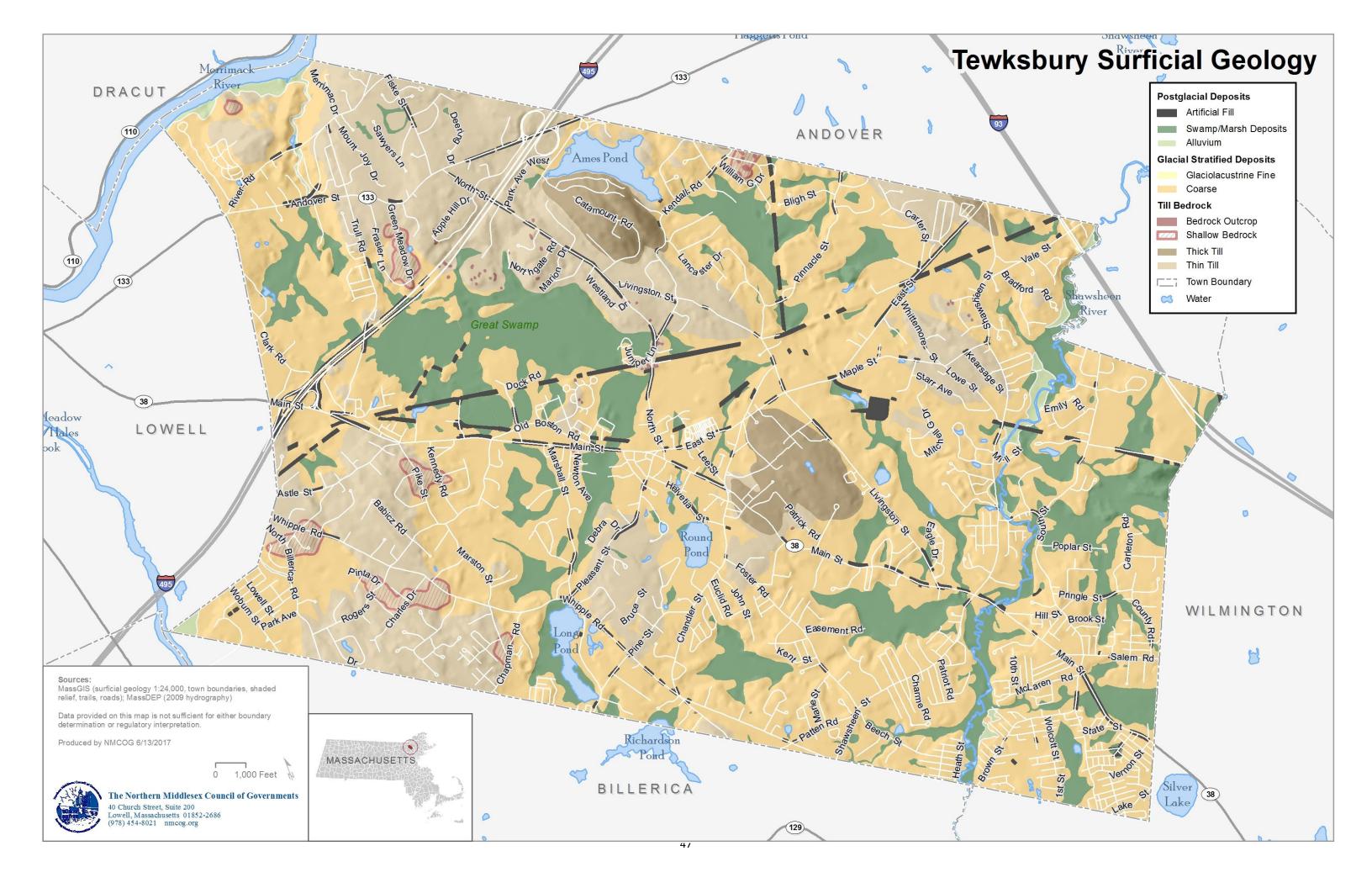
About thirty-one (31.4%) of Tewksbury is covered by soils classified as part of the Windsor-Hinckley-Deerfield Association, which is composed of sandy, gravelly, and moderately well-drained soils. These soils make up most of the ground cover in the Town

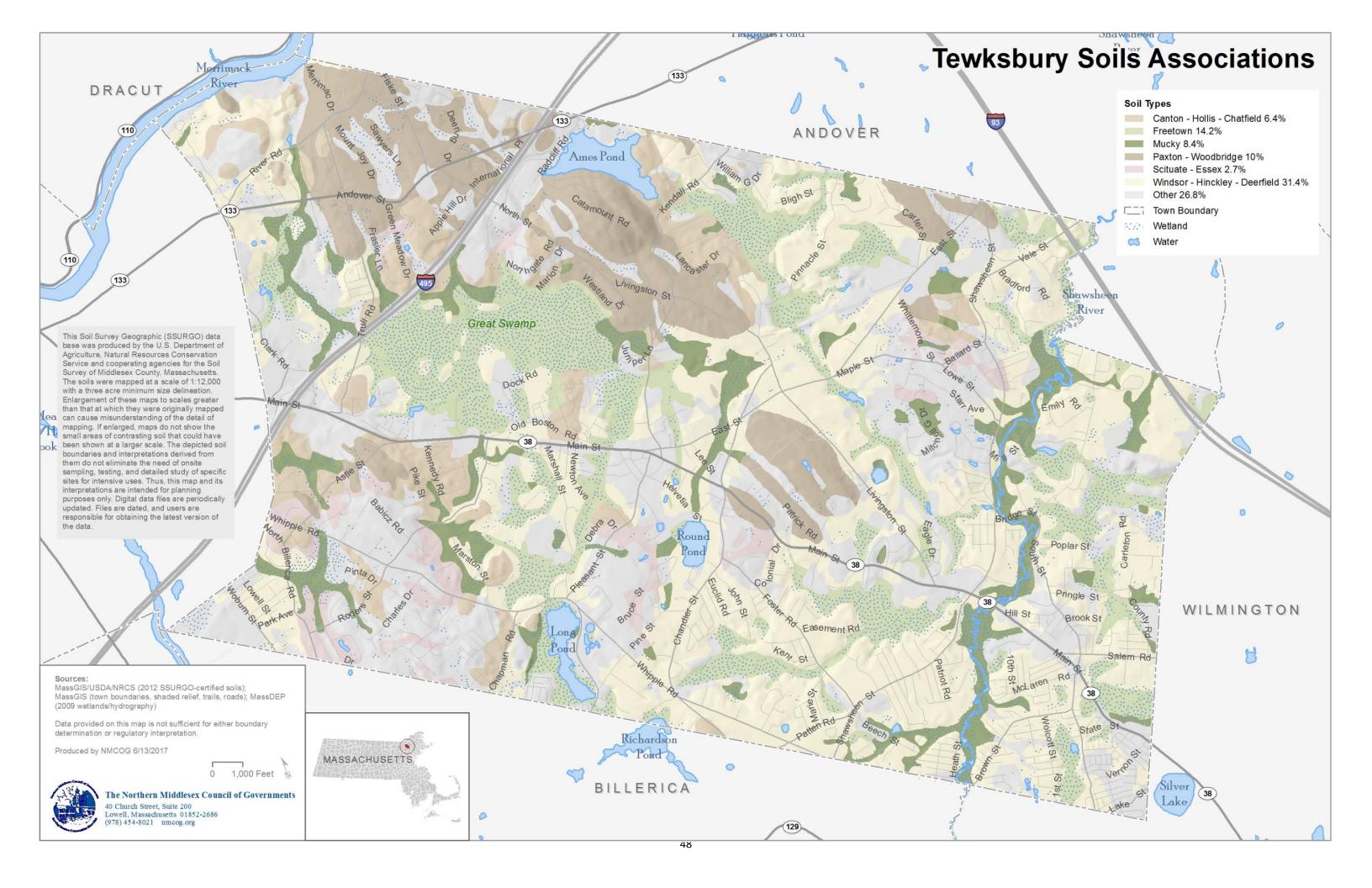
and are found on level or gently sloping land formations. The sandy nature of these soils allows them to absorb sewage effluent, but their rapid permeability means that shallow wells in these soils can easily become contaminated from nearby septic systems or other nonpoint source pollutions. Most of these soils have slight limitations for residential, commercial, or industrial uses, and can readily accommodate most kinds of recreation.

Comprising about fourteen (14.2%) of the land area, and scattered throughout Tewksbury, the Freetown soils are composed of very poorly drained muck and freshwater marsh organic soils. They are found in level and depressed areas, and along waterways, and have a moderate to very moderate permeability. The water table is generally at or near the surface most of the year in these areas. These soils have moderate limitations for site development and recreational uses, and are poorly suited for most agricultural and woodland uses. There are severe limitations for residential, commercial, or industrial uses because of wetness, poor load-bearing capacity, and seasonal high water tables. Organic layers have very low strength and should be removed to support loads.

The Paxton-Woodbridge Association covers approximately ten (10%) of the land area in Tewksbury, mostly concentrated around Ames Pond and in the western corner of Town. They are well-drained and moderately well-drained loamy soils in the sub-glacial and lodgment till classification. These soils are very deep to bedrock and moderately deep to densic contact. They are found on level to moderately steep formations on till plains, hills, and drumlins. Slopes for such formations range from 0 to 25, and 0 to 45 percent respectively. These soils are characterized by a slowly permeable hardpan within two feet of the surface. Seepage keeps them wet for significant periods in winter and early spring. These soils have few limitations for woodlands, some recreational uses, and agriculture. However, they have strict limitations for industrial and commercial use, and residential development with on-site sewerage disposal.

Canton-Hollis-Chatfield Association soils are moderately well-drained and comprise only six (6.4%) of the land area in the Town. These soils are found in two (2) locations – one tract near Ames Pond, and another in the western corner of Town, where the terrain is hilly. These soils are found in stony and rocky areas with frequent ledge outcrops, and have moderate to severe limitations for woodlands, but slight or moderate limitations for some wildlife or recreational uses. Agricultural, residential, commercial, and most other uses are severely limited by the bedrock. Groundwater supplies are difficult to develop and sewage disposal areas are difficult to install.





Mucky-Fresh Water Marsh Association soils covers approximately eight (8.4%) of the land and are very poorly drained organic and mineral soils on low-lying level terrain with water tables at or near the surface. The general soil area has no limitations for wetland wildlife, and is suitable for some kinds of recreational uses. It is not suitable for development. The vast majority of these areas are within protected wetlands.

Comprising about two (2.7%) of Tewksbury, the Scituate-Essex Association is composed of compact glacial till soils that have hardpan near the surface. These soils are well-drained and moderately well-drained stony soils that developed in sandy, compact glacial till. The depth to hardpan is from 1.5 to 2 feet. Excess seepage water or fluctuating water table within two feet of the surface of Scituate soils may keep them saturated with water for a significant period of time. The condition generally prevails during the winter and spring, but also occurs during prolonged periods of rainfall. The hardpan present in this soil association is slowly permeable, severely curtailing the ability of these soils to absorb sewage effluent. In addition to hardpan, the soils contain stones and boulders on and below the surface. These soils are unsuitable for development dependent on on-site disposal systems but can be used for woodland, wildlife habitat, and some kinds of recreation.

# B. Landscape Character

Once a rural agricultural community, Tewksbury is now considered a mature suburb. Due to regional transportation improvements that have occurred over the past fifty years, suburban development patterns have transformed the character of the landscape. The town is a mix of development styles and traditions, with the most striking recent change being the rise in the number of apartment and condominium buildings. The detached, single-family house is still the dominant land use. Both the industrial and commercial sectors have grown at a significant rate since the 1970s, with industrial growth surpassing commercial development. According to the Tewksbury Tax Assessor parcel data, approximately 1,400 acres (12% of the town's land area) of undeveloped land still remain in Tewksbury. <sup>3</sup> Commercial and retail establishments have become the prevalent development style along the Route 38 corridor.

Both natural and built environments characterize Tewksbury's landscape. The most distinctive landscape features are the Tewksbury State Hospital land, the Trull Brook, floodplains, wetlands surrounding the Concord, Merrimack and Shawsheen Rivers, the rivers themselves, the Great Swamp and three major ponds: Ames Pond, Round Pond and Long Pond. The rivers have shaped Tewksbury's landscape, topography and development patterns. They provide residents with drinking water and recreational opportunities, and

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<sup>&</sup>lt;sup>3</sup> Tewksbury Master Plan, 2016, prepared by RKG Associates, McMahon and Northern Middlesex Council of Governments, p. 18.

influence planning and development decisions. The agricultural fields and trails surrounding Tewksbury State Hospital are valued for their scenic quality and historic significance. The State Hospital is listed on the National Register of Historic Places.

The Town Center remains the nucleus of the community. The Town Hall was recently renovated and restored, and the Town is engaged in a planning initiative to strengthen and improve this area as the civic and cultural heart of the community. This initiative is focused on enhancing municipal properties and infrastructure, and improving streetscapes, lighting and pedestrian amenities, in a fashion that respects and complements the Center's historic character.

During the Visioning Session held on January 26, 2017, Trull Brook and the Shawsheen River were identified as important resource areas. Trull Brook offers broad views of the natural landscape given its steep elevation and should be a priority area for protection. The Shawsheen River meanders through Tewksbury and is picturesque, although it is often hidden from view by development.

### C. Water Resources

#### **Surface Water**

The Town of Tewksbury's surface water resource system is intricate and complex, particularly given that the town is located within three watersheds: the Concord, Merrimack and Shawsheen, and is also part of the Ispwich watershed basin. Most of surface water in Tewksbury drains into the Shawsheen River, while about one-fifth of the town drains northwesterly toward the Merrimack River. The town's southwest corner drains to the Concord River, and a small portion of South Tewksbury, bounded roughly by South Street and Salem Road, drains to tributaries of the Ipswich River in neighboring Wilmington.

Open water, wetlands and streams cover 730 acres of the community and play a major role in the town's development patterns. Water quality is influenced by ecology, hydrology, geomorphology and human activities within a watershed basin. The Town's surface water resources, shown on Map 6 on page 54, can potentially be used for swimming, fishing, boating, bird watching, nature study, and plant and wildlife conservation.

Tewksbury is geographically situated on the uplands between the Concord and Merrimack Rivers, with tributaries, wetlands and bogs being prevalent throughout town. The Merrimack and Shawsheen Rivers are vital components of Tewksbury's geography, providing drinking water, wildlife habitat and recreational opportunities. The Environmental Protection Agency classifies the water quality for all three rivers as Category "B" – safe for drinking (after treatment), fishing and swimming.

The Shawsheen River flows through three large floodplain meadows: one south of Route 38 (Main Street), one extending just north of Route 38 to Bridge Street, and one extending from Tananger Road to Route I-93. Between these meadows, the River flows in a rather narrow, winding channel. DEP has designated the river as impaired due to the presence of bacteria. A number of brooks flow into the Shawsheen River: Content Brook, which originates in Billerica; Heath Brook, which originates in the wetlands of south-central Tewksbury; Meadow Brook (called Strong Water Brook after it crosses East Street), which flows from Ames pond; Marshall Brook, which starts in the wetlands below Long Pond; and Darby Brook, which originates at Round Pond. There are other smaller and unnamed tributaries as well. Together, the Shawsheen River and its tributaries drain the eastern section of Town.

The Merrimack River forms about one mile of Tewksbury's northern border and serves as the town's sole drinking water supply. The Town operates a water treatment plant with a capacity of seven million gallons per day (gpd). Water quality in the River is threatened by non-point sources of pollution, such as untreated stormwater run-off, and combined sewer overflows (CSOs) from upstream. Trull Brook flows northward from the Great Swamp into the Merrimack River. The westernmost corner of the Town touches the Concord River. Together these waterways drain the western section of Town.

The Town contains four ponds: Long Pond and Round Pond are classified as Great Ponds given that they cover more than ten acres. Both ponds are publicly owned, however, Round Pond does not have public access and access to Long Pond is limited. Ames Pond is the largest pond in Tewksbury and covers eighty-one acres. The Pond is privately owned and is impounded by a dam. The town also contains a seasonal pond known as Mud Pond.

#### Wetlands

Wetlands cover approximately 20 percent of the land area in Tewksbury.<sup>4</sup> The town's largest contiguous wetland system, the Great Swamp, comprises the undeveloped area between North Street, Main Street and I-495. The most common wetland system in Tewksbury is the *deciduous wooded swamp*, which includes such species as red maple, ashleaved maple, cottonwood, American elm, spice bush and skunk cabbage. Deep marsh and swamp wetland systems are riparian areas found along the Shawsheen River and Strong Water Brook, especially in the area east of the Shawsheen River and north of Mud Pond.

The wetland vegetation predominantly found in Tewksbury's wooded swamps and shrub swamps include the following: red and silver maple, white oak, pin oak, American elm, white pine, hemlock, cherry, and highbush blueberry. There are also shallow fresh water marsh areas where cattails, reeds, and purple loosestrife (an invasive) are found. The fresh

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<sup>&</sup>lt;sup>4</sup> Ibid.

water meadows along the Shawsheen River include reeds, woodgrass, reed canary grass, wild millet, spike rush, and sedge. Pond edges provide habitat to submergent plants such as pondweeds, fanwort, bladderwort, and waterweed, and surface plants such as water lily, duckweed, smartweed, and liverwort.

Scientific studies have shown that wetlands protect our health, safety, and property, and provide habitat for a wide variety of wildlife. Wetlands provide many essential ecological functions including:

- serving as natural drainage ways and minimizing flood damage;
- recharging groundwater;
- serving as siltation basins and purifying the air and water of pollutants;
- providing important habitat for many different species, including rare and endangered species; and
- offering open space, natural beauty and recreational opportunities.

The Wetlands Protection Act (Massachusetts General Laws Chapter 131, § 40) is a state law that prohibits the removal, dredging, filling, or altering of wetlands without a permit. Tewksbury adopted a local Wetlands Bylaw several years ago to enhance M.G.L. c.131, § 40, the Massachusetts Wetland Protection Act. The local bylaw is administered by the Conservation Commission. Additionally, under Section 401 of the federal Clean Water Act, any discharge of dredged or fill material into waters or wetlands requires a state Water Quality Certificate. MassDEP must certify that projects requiring federal permits do not violate the state's water quality standards, which include protection for wetlands.

## **Aquifers**

In addition to surface water resources, there are volumes of water underground which saturate and flow slowly through soil and porous rock. These underground water areas are called aquifers. They are found in highly permeable sand and gravel deposits in Tewksbury, and contain very large volumes of groundwater.,

There are four major aquifers in Tewksbury. The largest aquifer runs under much of the eastern half of the town and includes the Shawsheen River and its major tributaries. This aquifer has two branches that are bisected by Main Street-one parallels Strong Water Brook and the other Heath Brook and Whipple Road. Significant portions of the eastern aquifer are classified as medium yield (100-300 gpm), with some high yield pockets. A smaller aquifer lies under Trull Brook, near the Trull Brook and Longmeadow Golf Courses. A small, high yield aquifer exists south of Ames Pond near the Great Swamp.

The land areas over and near groundwater are called aquifer recharge areas, since rainwater seeps through the soil in these places and replenishes, or "recharges," the groundwater supply. It is important to protect recharge areas from being inappropriately

developed, in order to avoid groundwater contamination and to insure enough rainwater penetrates the ground, thereby keeping the water level from dropping.

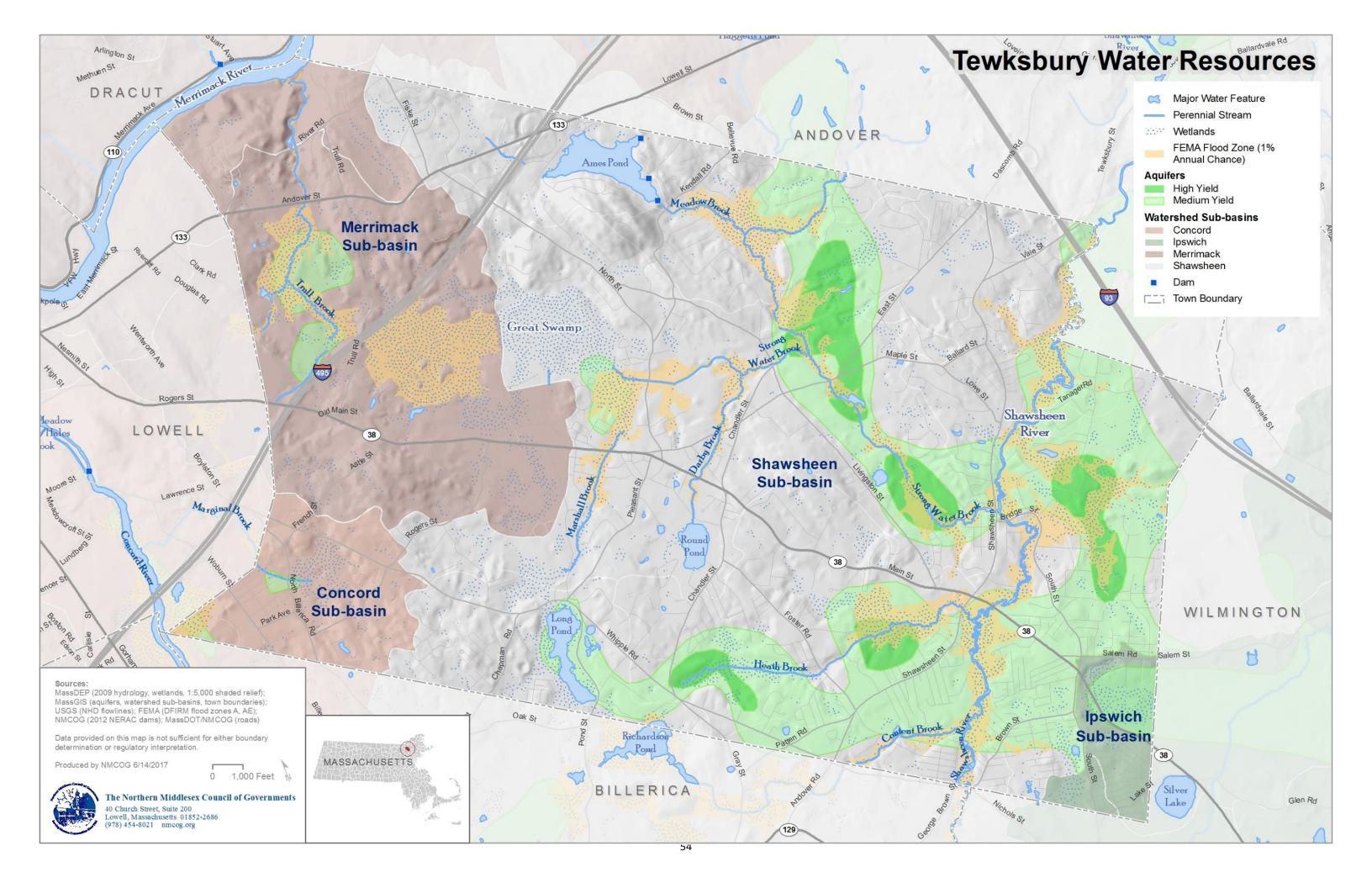
#### Flood Hazard Areas

The drainage areas and tributaries of the Merrimack, Shawsheen and Concord Rivers have historically been subject to significant flooding. Typically, the worst flooding occurs in spring, as a result of snow and ice melt, and in the late summer as a result of storm events, particularly during a 100-year storm. In addition to the Merrimack, Shawsheen and Concord Rivers, there are four major streams in Town: Heath Brook, Sutton Brook, Strongwater Brook and Trull Brook. All of these waterways are prone to flooding. Both the Shawsheen River and Strongwater Brook have significant floodplains

There are 1,617 acres of floodplain in Tewksbury, according to the FEMA FIRM maps. Substantial development exists in Tewksbury's floodplains, which has altered natural drainage and sedimentation patterns and increased the likelihood of flooding. This is especially the case in the Shawsheen River floodplain. The following locations have been identified as having recurring flooding and/or drainage problems: Bridge Street and South Street; Shawsheen Street and Mohawk Street; East Street near Strong Water Brook; Pinnacle Street; Shawsheen Street near Main Street/Route 38; Brown Street at Whipple Road; Pond Street; and Bonnie Lane. River Road sustained considerable damage in the floods of March 2010 and has since been reconstructed through funding received from FEMA and MassDOT.



Undermining created by flooding on River Road in Tewksbury in March 2010



Tewksbury has taken steps to protect its wetland resource and floodplain areas, by establishing a Flood Plain District in the Zoning Bylaw, and by adopting a local (nonzoning) wetlands bylaw in 1986, which is administered by the Conservation Commission. The local wetlands bylaw augments M.G.L. c. 131 § 40, the Massachusetts Wetlands Protection Act. It establishes a minimum continuous 25-foot wide buffer strip of undisturbed, natural vegetation around wetland resources and requires that any proposed structure be at least 50 feet from the resource. In effect, the bylaw intends to create a 25-foot "no disturbance zone" and a 50-foot "no build zone" around wetland resources.

The Town's Flood Plain (FP) District is typical of flood plain bylaws in other communities. It is triggered by uses in flood hazard areas identified on the Flood Insurance Rating Map (FIRM), and in areas within the 100-year floodplain, as identified by the Federal Emergency Management Agency (FEMA). The bylaw does not prohibit uses allowed in the underlying districts, but bans construction activity that encroaches on a floodway. For development in the Flood Plain District, the bylaw specifies submission requirements for permits from local authorities and incorporates compliance with other laws, e.g., the Wetlands Protection Act, the State Building Code and Title V.

Tewksbury has received disaster relief funds from the Federal Emergency Management Agency for several floods over the years. The Town is particularly concerned about flooding impacts in South Tewksbury, which is densely populated, has narrow roadways and older housing stock, a significant elderly population and many young families. In the past, the Town has created emergency access ways in order to evacuate the neighborhood.

The two highest recorded floods on the Merrimack River were in March 1936 and in September 1938. Since these major storm events, measures have been enacted and flood control dams have been installed on upstream tributaries to the Merrimack. During a 100-year storm event, water floods between 85 and 90 feet of land to either side of the Shawsheen River's normal banks.

There are eight repetitive flood loss structures located along the Shawsheen River within the Town of Tewksbury in the Devonshire Road area. All of the repetitive flood loss properties are residential. As of May 2013, twenty-four (24) claims were paid under the National Flood Insurance Program, which totaled \$187,619. <sup>5</sup> The Town of Tewksbury has been part of the NFIP for well over a decade. The Town has adopted Chapter 40, Section J relative to Public Safety Mutual Aid and Chapter 40, Section K relative to Public Works Mutual Aid. NFIP monitoring and compliance is accomplished through the building permit process, whereby the Building Department requires certified plat plans for all proposed

<sup>&</sup>lt;sup>5</sup> Hazard Mitigation Plan for the Northern Middlesex Region, Northern Middlesex Council of Governments, 2015.

structures. NFIP educational materials are available at the Building Department and the Town Clerk's office.

# D. Vegetation

Tewksbury is home to over 200 species of plants, which provide a rich natural ecosystem for the Town and enhance the scenic beauty and visual appeal of the landscape. These species occupy habitat such as the land around the ponds, the Shawsheen River corridor, along streams and waterways, the forests, the wetlands, and the fields and field edges of agricultural land. Vegetation makes a valuable contribution to the quality of life in other ways as well. Plants build new soil, and reduce soil erosion, run off, and sedimentation in brooks and rivers. It modifies the temperature and humidity, filters light, and absorbs sound. Vegetation provides a windbreak, and enhances areas that provide leisure and relaxation.

Within Tewksbury, the Natural Heritage and Endangered Species Program Inventory lists six plant species as threatened, endangered, or of special concern, as shown in Table 22 below. Many listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to conduct systematic species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old, should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five (25) years as historic. The major causes of species rarity are destruction or development of habitat.

Table 22: Plant Species Considered Threatened, Endangered, or of Special Concern

Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Observation
Vascular Plant	Scheuchzeria palustris	Pod-grass	Endangered	1853
Vascular Plant	Potamogeton confervoides	Algae-like Pondweed	Threatened	Historic
Vascular Plant	Panicum philadelphicum	Philadelphia Panic-grass	Special Concern	1990
Vascular Plant	Carex oligosperma	Few-seeded Sedge	Endangered	1911
Vascular Plant	Utricularia resupinata	Resupinate Bladderwort	Threatened	1900
Vascular Plant	Liatris scariosa var. novaeangliae	New England Blazing Star	Special Concern	1899

Source: Natural Heritage and Endangered Species Program

The vegetation in Tewksbury is typical of eastern Massachusetts. The plants occur in three major community types: open fields and field edges, several kinds of wetlands, and hardwood, or mixed hardwood/softwood forests. This diversity of these plant communities provides good habitat for wildlife and aquifer recharge, and provides passive recreational opportunities such as hiking and bird watching. The open fields are mostly

active or abandoned agricultural land, and include cropland, pasture, orchards, nurseries, and vegetable gardens, and contain the cultivated and weed species associated with these uses. Field edges provide important wildlife habitat, and eventually revert to forest if left undeveloped. The wetland vegetation is predominantly found in wooded swamps and shrub swamps, and includes varied species, such as red and silver maple, white oak, pin oak, American elm, white pine, hemlock, cherry, and highbush blueberry.

Tewksbury forests contain a mix of hardwoods and softwoods. The softwood species are primarily white pine and red pine. Hardwood species include oak, beech, maple, elm, birch, aspen, and hickory. Understory species include cherry, honey locust, and sumac, among others. Forest areas are important in that they protect large tracts of second growth vegetation. Tewksbury currently does not have any town or state forests.

Tewksbury has a variety of introduced species planted by its residents. Invasive species are frequently ornamental and non-native, i.e., they have been introduced to an area. Since invasive species have no natural predators in an area where they are introduced, therefore, they can invade, degrade or destroy the habitat of local species. Yard plantings and vegetable gardens are common in Tewksbury. Educating residents on this issue would help to prevent the spread of invasive species.

#### **Shade Trees**

Tewksbury does not currently have a shade tree by-law, but falls under Massachusetts General Law, Chapter 87 Section 3 for any issues related to public shade trees. The Tree Warden inspects the Town's street trees and park trees every year for decay, damage, disease or dead trees and is also responsible for controlling noxious or invasive vegetation. Records of the tree's location, condition, and any preventive action taken, including removal, are documented. Healthy trees are not removed unless they are an obstruction to public safety. The Tree Warden works with tree companies and employs proper arboricultural practices to ensure proper line trimming along utility lines and roadways.

The Forestry Division abandoned the use of herbicides in the late 1980s. Currently, municipal staff addresses the control of roadside brush, and the pruning of low limbs or poorly structured limbs overhanging the right-of-way. The Tree Warden assists the Planning Board by providing input and guidance on landscaping and plantings proposed during the subdivision review and approval processes.

#### E. Fisheries and Wildlife

Wildlife adds beauty, character, and recreational opportunities that can be enjoyed by the Town's residents. Well over one hundred (100) species of animals can be found in Tewksbury, including over sixty (60) breeding bird species, twenty (20) fish species, more

than twenty (20) mammalian species, more than thirty (30) reptile and amphibian species, and an uncounted number of invertebrate species (of which a list is not readily available).

Some of the animals are commonly found throughout much of the Town, but others are rare and occur only in a few special habitats. To survive, all wildlife species require food, water, and shelter. The ponds, extensive wetlands, the Shawsheen River and its tributaries, and the forests and field edges provide diverse habitat for wildlife.

Enhancing the diversity of Tewksbury's natural plant and animal habitats, instead of allowing them to decline, requires identifying the most significant remaining natural areas in town and protecting them. The beaver is one species found in Tewksbury that has a major impact on the natural built environment, causing flooding problems to open resource areas and adjacent property owners. Beavers are simply an inconvenience to landowners; however, tolerance is the easiest solution. The Seven-Year Action Plan in Section 9 of the 2009 OSRP provided specific actions aimed at controlling the beaver problem. The Town contracted with Beaver Solutions to install and maintain several beaver deceiver units throughout town as a beaver population management tool. Six sites were installed prior to 2016. Two additional sites were installed in 2016 bringing the total to eight sites. This management method seems to be working well for controlling flooding related to beaver activity.

Since wildlife thrive in large, interconnected natural areas, open space linkages connecting the natural areas would benefit locally occurring wildlife that would utilize such corridors for migration and feeding territory. Wildlife habitat protection is very compatible with the maintenance of the Town's scenic character, passive recreation opportunities, flood protection, and protection of aquifer recharge areas.

Table 23: Tewksbury Wildlife

Table 25. Tewksbury Wilding								
	MAMMALS							
Beaver	Muskrat	Fisher						
Otter	Mink	Shrew						
Vole	Deermouse	Skunk						
Raccoon	Squirrel	Rabbit						
Chipmunk	Deer	Fox						
26.3	***							
Mole	Woodchuck	Weasel						
P' 11	D.	D C . / D						
Field mouse	Rat	Domestic: Cat/Dog						
Carata								
Coyote								

Table 23 (continued): Tewksbury Wildlife

	BIRDS	
Mallard duck	Rough-winged swallow	Warbling vireo
Yellow warbler	Black-capped chickadee	Killdeer
American goldfinch	Tufted titmouse	Scarlet tanager
Black duck	Red-breasted nuthatch	Cardinal
Common yellowthroat	White-breasted nuthatch	Starling
Chipping sparrow	Mocking bird	Blue jay
House sparrow	Grey catbird	Northern oriole
Field sparrow	American robin	Common grackle
Ring-necked pheasant	Great crested flycatcher	Indigo bunting
Bobolink	Redwinged blackbird	Rufous-sided towhee
Song sparrow	American bittern	Swamp sparrow
Brown-headed cowbird	Wood duck	Canada goose
Eastern meadowlark	Broad-winged hawk	American kestrel
Rock dove	American woodcock	House wren
Mourning dove	Belted kingfisher	Brown thrasher
Chimney swift	Hairy woodpecker	Tree swallow
Common flicker	Barn swallow	Blue Heron
Downy woodpecker	Eastern phoebe	Red-tailed hawk
Eastern kingbird	Common crow	Wild turkeys
White swan		
	FISH	
American eel	Brook trout	Common carp
Chain pickerel	Goldfish	Common shiner
Golden shiner	Yellow perch	Creek chubsucker
Fallfish	White sucker	White perch
Yellow bullhead	Brown bullhead	Bluegill

Table 23 (continued): Tewksbury Wildlife

Table 23 (continued): Tewksh	•								
	FISH (cont'd)								
Redbreast sunfish	Pumpkinseed	Tesselated darter							
Largemouth bass	Black crappie	Redfin pickerel							
	AMPHIBIANS								
Marbled salamander	Wood frog	Fowler's toad							
Spotted salamander	Green frog	Northern spring peeper							
Northern dusky salamander	Bullfrog	Red-spotted newt							
Red-backed salamander	Grey tree frog	Four-toed salamander							
Northern two-lined salamander	Northern leopard frog	Eastern American toad							
Pickerel frog									
	REPTILES								
Snapping turtle	Northern brown snake	Northern black racer							
Stinkpot	Northern red-bellied snake	Eastern smooth green snake							
Spotted turtle	Eastern garter snake	Eastern milk snake							
Eastern box turtle	Eastern ribbon snake	Northern ring-neck snake							
Painted turtle	Eastern Hognose snake	Northern water snake							

Source: Massachusetts Natural Heritage and Endangered Species Program

## Rare, Threatened and Endangered Species

Within Tewksbury, the Natural Heritage and Endangered Species Program Inventory lists the following wildlife species as threatened, endangered, or of special concern, as shown in Table 24 on the following page. Many listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to conduct systematic species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five (25) years as historic. The major cause of their rarity is habitat destruction resulting from residential, commercial and industrial development; collection by individuals for pets; disturbance by ATVs; and mowing of fields.

Table 24: Wildlife Species Considered Threatened, Endangered of Special Concern in Tewksbury

Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Observation
Amphibian	Ambystoma laterale	Blue-spotted Salamander	Special Concern	2005
Reptile	Glyptemys insculpta	Wood Turtle	Special Concern	1992
Reptile	Emydoidea blandingii	Blanding's Turtle	Threatened	1993
Bird	Cistothorus platenis	Sedge Wren	Endangered	1978
Fish	Notropis bifrenatus	Bridle Shiner	Special Concern	1962
Mussel	Alasmidonta undulata	Triangle Floater	Special Concern	2003

Source: Natural Heritage and Endangered Species Program

#### Wildlife Corridors

Wildlife corridors are connections across the landscape that link areas of habitat. They support natural processes that occur in a healthy environment, including the movement of species to find resources, such as food and water. Corridors can contribute to the resilience of the landscape in a changing climate and help to reduce greenhouse gas emissions by storing carbon in native vegetation. They can also support multiple land uses such as conservation, farming and forestry.

By providing landscape connections between larger areas of habitat, corridors enable migration, colonization and interbreeding of plants and animals. Corridors can consist of a sequence of stepping stones across the landscape (discontinuous areas of habitat such as trees, wetlands and roadside vegetation), continuous lineal strips of vegetation and habitat (such as riparian strips, ridge lines etc.), or they may be parts of a larger habitat area selected for its known or likely importance to local fauna. Corridors play an extremely important role in the maintenance of biodiversity, but they can only partly compensate for the overall habitat loss produced by the fragmentation of the natural landscape. Therefore, it is important that vegetation remnants and vegetated corridors are maintained and enhanced as a network, across both private and public lands. In this way, private landscapes can contribute to community conservation efforts by enhancing and linking existing remaining conservation areas.

Although open space is becoming increasingly fragmented by development in parts of Tewksbury, wetland, rivers, and streams provide important habitat corridors. In addition, abandoned railroads and utility rights-of-way provide continuous access and encourage the unimpeded movement of wildlife. Open lands and agricultural areas near the State Hospital also provide important habitat for wildlife.

Tewksbury has the potential to create significant wildlife corridors and linkages by interconnecting the fragmented green spaces throughout town as future opportunities arise. Town officials should continue working with the Bay Circuit Alliance, Appalachian Mountain Club

and appropriate federal and state agencies to develop a trail network that links open space areas in Tewksbury with those of surrounding Towns. Map 7 shows the Town's current trail system,

# F. Scenic Resources and Unique Environments

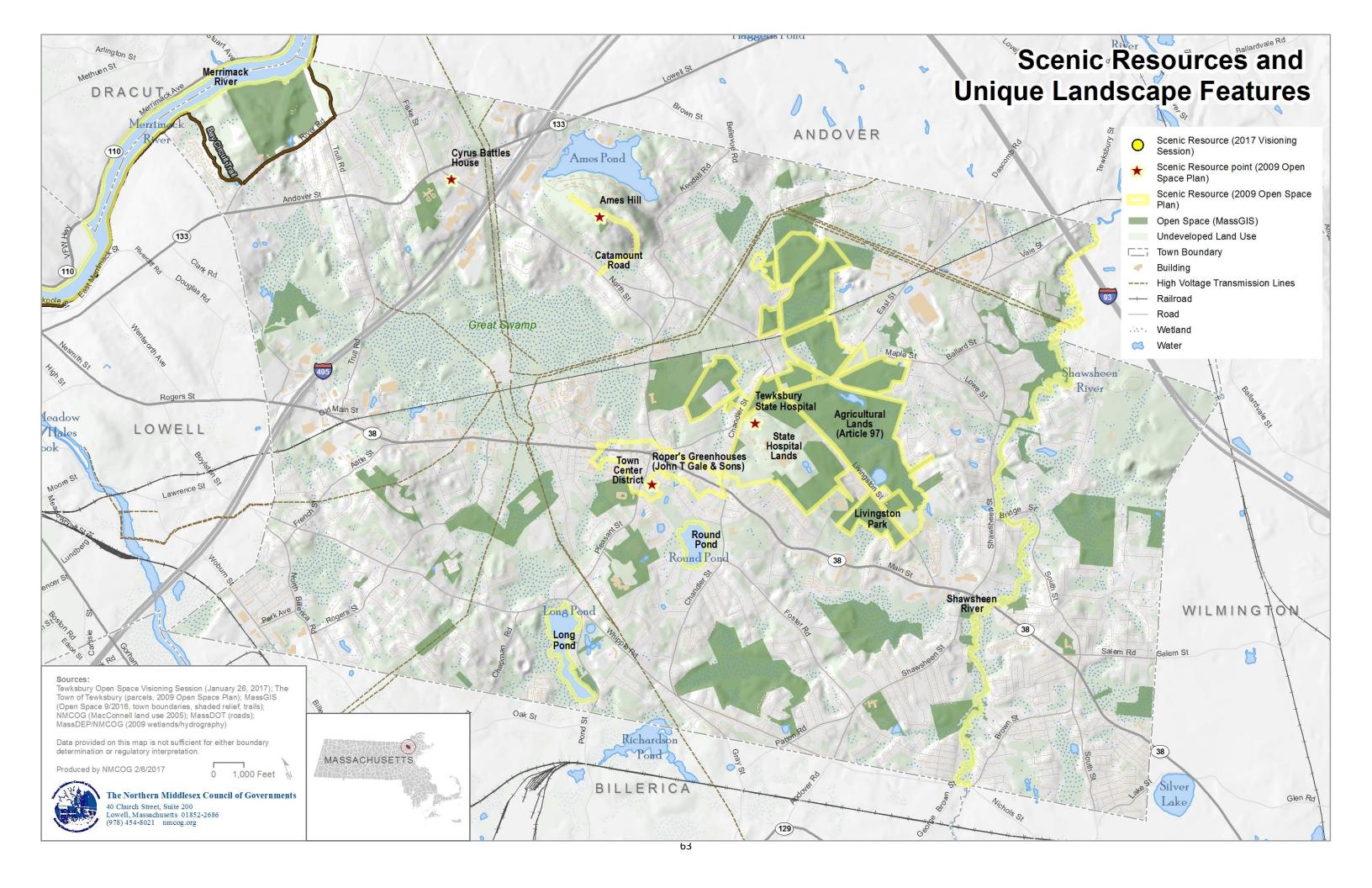
Among the most under used and under protected places in the town is the Shawsheen River. The low-lying areas of the Shawsheen watershed offer picturesque views. As noted in previous Open Space and Recreation Plans, the landscape overlooking the Shawsheen River provides important recreational and preservation opportunities. The riverbanks of the Shawsheen, however, have been repeatedly built upon. The Merrimack and Concord Rivers are also important natural features that should be protected.

Ames Hill was identified as a scenic resource during the public outreach process. This area offers spectacular views of the Boston Skyline, but has been impacted by development over the past several years. Trull Brook was also been identified as a scenic resource, and offers views of the Merrimack River and golf course because of its steep elevation. The survey for the Open Space and Recreation Plan also identified several other scenic and iconic resources, such as the fields at the State Hospital, Tewksbury Country Club, Livingston Park, and Town Hall/Town Center/Town Common, as shown on Map 8 on the following page.

Tewksbury is home to a significant collection of public sculpture by renowned artist Mico Kaufman. The "water" sculpture of Anne Sullivan and Helen Keller is located in the Town Center. Other significant Kaufman pieces found in Tewksbury include "Touching Souls" located at the Methodist church on the corner of Main and South Streets, "Muster" located at the South Fire Station, "Wamesit Indian" located on Main Street, and the "Veteran's Memorial" located in front of Town Hall.

### **Cultural and Historic Areas**

Some of Tewksbury's most unique cultural and historic resource areas exist as a result of the Town's rural history. Cultural and historic resources are very important to the town's sense of place, and Tewksbury has approximately two dozen potentially significant sites, according to the Massachusetts Historical Commission. The roots of Tewksbury can be credited to the Wamesit tribe who lived in the Shawsheen River Valley hundreds of years ago and the European settlers who arrived in the River Valley in the early  $18^{th}$  century. Nearly fifty historic buildings and landmarks were identified in the Town's Master Plan. A complete listing of these properties is included in Section 3 of this document. The Tewksbury State Hospital (circa 1854) and the Cyrus Battles House are listed on the State Register of Historic Places. The State Hospital and surrounding buildings are also listed on the National Register of Historic Places.



# Trail Map Placeholder

#### Areas of Critical Environmental Concern

Tewksbury does not currently have any areas designated as Areas of Critical Environmental Concern (ACEC) by the ACEC Program. An ACEC designation recognizes the critical environmental importance of areas with significant natural resource systems. The designation notifies regulatory agencies and the public that most development activities under state jurisdiction within ACEC's must meet high environmental quality standards. Along with habitat value, recreation, scenic, historic and archaeological qualities of an area are assessed in the designation process.

# **G.** Environmental Challenges

#### **Hazardous Waste and Brownfield Sites**

The Sutton Brook Disposal Area, also known as Rocco's landfill, is located off South Street in the eastern portion of Town. Rocco's landfill is the only Superfund site listed on the Environmental Protection Agency's (EPA) National Priorities List in Tewksbury. Also known as the former Town Dump, the site is located on approximately 50 acres and includes several different tax parcels. A small portion of the site extends into the adjacent Town of Wilmington, Massachusetts. Approximately 300 yards south of the landfill is an unnamed pond, used seasonally for ice-skating.

The site is comprised of three (3) source areas:

- 1. A 50-acre landfill;
- 2. An area of buried drums; and
- 3. Contaminated soils associated with the drum disposal area.

The Town of Tewksbury, Massachusetts Department of Environmental Protection and the EPA have been actively involved in monitoring the site. Site investigations have revealed the presence of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides and polychlorinated biphenyls (PCBs), as well as inorganic elements in on- and off-site groundwater, surface water, sediment and soil.

During the investigation of Rocco's landfill, additional drum burial areas and suspected disposal areas were identified. This area, known as the Wilmington Disposal Area located at 1079 South Street, is comprised of 117 acres of land, and also extends into the Town of Wilmington. The EPA listed this as a Superfund Short Term Cleanup (Removal) project and work was completed on July 24, 2001. The site consisted of over two hundred drums that were buried in the ground, with a majority of them in various stages of decomposition. High levels of volatile and semi-volatile organics and heavy metals were identified from one of the test pits. Portions of this property are used for a piggery, horse stables, and greenhouses.

Remediation of this property included: excavation of additional soils and sediments; consolidation of the material in the on-site landfills and landfill capping; groundwater collection and treatment, monitored natural attenuation for areas of groundwater contamination not captured by the extraction system, with a contingency to expand the area of active groundwater remediation, if necessary; institutional controls such as deed restrictions and/or local ordinances to prevent unacceptable exposures to wastes left in place and to restrict exposure to contaminated groundwater until cleanup levels are met; and long-term monitoring. Construction of the remedy was substantially completed during 2014 and 2015. A final inspection of the remedy was conducted in 2016.

Since the final inspection, contaminated groundwater has continued to be extracted from the site for treatment and the landfill cap and wetland restoration areas have undergone ,and will continue to undergo periodic inspection, monitoring and maintenance. The status of the site, as of July 2016, is listed as construction complete, meaning that remedies such as a water treatment system are fully constructed. This does not necessarily mean that final clean up levels or other requirements have been achieved. At this point, response actions are limited to measures that do not involve construction. Human exposure and contaminated ground water status is listed as "under control". The site is not ready for any anticipated use.

In addition to the Superfund sites, the DEP lists 175 sites in town that have had reportable releases. Additional information regarding these locations can be found in Table .

Table 25: Reportable Hazardous Material Releases (As of March 31, 2017)

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
3-0000439	400 Main St Rte 38	Ashland Chemical Great Swamp	None	1987-01-15	RAO	2005- 01-31	PHASE II	B1	
3-0000441	Livingston and Maple Sts	Property	None	1987-01-15	DEPNDS	1996- 05-23			
3-0000809	1130 East St	Tecfab Inc Fmr	None	1988-10-15	RAO	2006- 11-10	PHASE II	B1	
3-0000810	2 Main St	Amoco Station Fmr 642	None	1991-10-15	RAO	2004- 08-31	PHASE III	A2	Oil
3-0001140	Livingston St	Tewksbury State Hospital	None	1987-01-15	RAO	2001- 10-01	PHASE II	B1	
3-0001162	450 Clark Rd	Lowell Regnl Transit Authority	None	1990-01-15	RAO	2008- 10-14	PHASE IV	A2	
3-0001236	Main St Rte 38	Atamian Volkswagon	None	1988-10-15	RAO	1995- 02-27		A2	Oil

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
3-0001240	1220 Main St	Shell Service Station	None	1986-07-18	REMOPS	2007- 08-02	PHASE V		
3-0001482	869 Main St	Getty Station	None	1989-10-15	RAO	2013- 05-30	PHASE V	C2	Oil
3-0001716	540 Main St	Astro Circuits Corp	None	1987-01-15	RAO	2012- 12-20		C1	
3-0001717	365 Main St	Shell Service Station	None	1987-01-15	RAO	2005- 09-20		A2	
3-0001718	525 Woburn St	Corenco Corp Fmr	None	1987-01-15	RAO	1996- 08-05		A2	
3-0001719	349 Marshall St	Marshall Co Fmr	None	1987-01-15	DEPNFA	1993- 07-23			
3-0001865	860 East St	Tewksbury Auto Parts	None	1989-01-15	TIERI	1999- 08-24	PHASE IV		
3-0002104	1192 Main St	Property	None	1989-04-15	RTN CLOSED	2007- 06-23			
<u>3-0002516</u>	1 Main St	Texaco Service Station	None	1993-10-01	RAO	2004- 12-08	PHASE IV	A2	
3-0002577	999 Whipple Rd	Tewksbury Dpw	None	1990-01-15	RAO	1996- 07-24			
3-0002797	1040 Main St	Mobil Service Station 01 256	None	1990-01-10	REMOPS	2005- 03-07	PHASE V		Oil
3-0002967	1049 Main St	Sunoco Station	None	1990-01-15	TIERI	2005- 11-01	PHASE II		
3-0003181	940 Andover St	Mobil Service Station 01- Prj	None	1990-07-15	RAO	2004- 06-28	PHASE V	C2	Oil
3-0003187	1992 Main St	Mobil Service Station 01 Pwb	None	1990-05-15	PSC	2014- 08-07		PC	Oil
3-0003201	1975 Main St	Texaco Service Station	None	1990-07-15	URAM	1995- 05-19			Oil
3-0003379	91 Pike St Fox Run	Property	None	1988-03-09	DEPNDS	1996- 04-04			Oil
3-0003504	1685 Shawsheen St	Liquid Carbonic	None	1989-04-14	RAO	1999- 12-01	PHASE III	A2	Oil
<u>3-0003516</u>	1860 Main St	Citgo Station	None	1991-04-15	RTN CLOSED	2003- 02-01			Oil
3-0003533	800 Main St	Snack Shack	None	1991-04-15	DEPNFA	1996- 06-12			Oil
3-0003682	30 East St	Tewksbury	None	1990-01-03	RAO	2002-	PHASE III	A3	

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
		State Hosp Power Pln				07-08			
3-0003852	637 Clark Rd	At&T	None	1992-01-15	RAO	1997- 08-06		А3	Oil
3-0003893	1069 South St	Sutton Brook Disposal Area	None	1992-04-15	ADEQUATE REG	2007- 06-15			Hazardous Material
3-0003930	734 Main St	Sooner Lube	None	1992-02-26	DEPNFA	1996- 06-12			Oil
3-0003971	1069 South St	Loam Operation	None	1992-04-24	TIER1D	2008- 07-07			Oil
3-0010099	1600 Shawsheen St	No Location Aid	72 Hr	1993-10-25	RAO	1999- 05-17	PHASE II	A3	Oil
3-0010276	836 North St	Wang Computers	Two Hr	1993-12-08	RAO	1994- 12-08		A2	Oil
3-0010834	22 Dirlam Cir	No Location Aid	120 Dy	1994-04-12	RAO	1994- 08-12			Oil
3-0010841	400 Main St	Ashland Chemical Co	72 Hr	1994-04-13	RAO	1995- 07-06		B2	Oil
3-0011207	860 East St	No Location Aid	Two Hr	1994-06-27	RTN CLOSED	1999- 02-25			Oil
3-0011414	860 East St	No Location Aid	Two Hr	1994-08-03	RTN CLOSED	1999- 02-25			Oil
3-0011930	33 Main St	Hallisey Chevrolet Site/Rte 38	Two Hr	1994-12-06	RAO	1995- 02-06		A2	Oil
3-0012386	1975 Main St	Texaco Station	120 Dy	1995-04-13	URAM	1995- 05-19			Oil
3-0012649	Dock St	Substation	Two Hr	1995-06-30	RAO	1995- 08-28		A2	Oil
3-0012734	Main St And Clark Rd	No Location Aid	120 Dy	1995-07-24	URAM	1995- 07-24			Oil
3-0012884	657 North St	Wang Building #6	Two Hr	1995-09-05	RAO	1996- 01-04		A2	Oil
3-0012895	Main St	Clark Rd	120 Dy	1995-09-06	URAM	1995- 09-06			Oil
3-0013000	1635 Shawsheen St	No Location Aid	72 Hr	1995-10-03	RAO	1996- 01-25		A2	Oil
3-0013012	2 Main St	Mobil Station	72 Hr	1995-10-06	RTN CLOSED	1996- 07-19			Oil
3-0013062	8 Kennedy Rd	No Location Aid	Two Hr	1995-10-20	RAO	1999- 02-24	PHASE III	A2	Oil
3-0013516	10 Victor Dr	Wynn Middle School	Two Hr	1996-03-01	RAO	1997- 03-01		A1	Hazardous Material

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
3-0013607	1258 Main St	A&B Automotive( Fmr Amoco)	Two Hr	1996-03-25	REMOPS	2016- 09-30	PHASE V		Oil and Hazardous Material
<u>3-0013811</u>	170 Old Main St	Williamsburg Park Near Intscn With Main	120 Dy	1996-05-22	RAO	2005- 11-30	PHASE II	А3	Hazardous Material
3-0013840	1777 Main St	Heathbrook Plaza	120 Dy	1996-05-31	DPS	1996- 06-12			Hazardous Material
3-0013857	1 Main St	At Clark Rd	120 Dy	1996-06-03	RAO	1996- 08-19		A2	Oil
3-0014028	1860 Main St	Citgo Station	72 Hr	1996-07-22	RAO	2009- 10-14	PHASE V	A2	Oil and Hazardous Material
3-0014040	1685 Shawsheen St	No Location Aid	120 Dy	1996-08-27	RAO	1997- 08-29		A2	Oil and Hazardous Material
3-0014152	East St	Behind Tewksbury Cemetery	120 Dy	1996-08-13	TIER 2	2000- 08-28	PHASE II		Hazardous Material
3-0014164	1069 South St	No Location Aid	Two Hr	1996-08-09	RTN CLOSED	1996- 10-07			Oil
3-0014267	1685 Shawsheen St	No Location Aid	72 Hr	1996-09-24	RAO	1999- 11-29	PHASE III	А3	Oil
<u>3-0014736</u>	95 Main St	Econ Lodge	Two Hr	1997-01-18	RAO	1997- 03-24		A1	Oil
3-0014821	553 Main St	Behind Purity Market	120 Dy	1997-02-12	RAO	1997- 03-17		A2	Oil
3-0014977	Rte 495 S	@ Rte 38	Two Hr	1997-04-07	RAO	1998- 03-23		A2	Oil
3-0014983	Main St Livingston St	Tew Mac Airport	120 Dy	1997-04-07	RAO	1998- 04-14	PHASE II	А3	Oil
<u>3-0015165</u>	20 Robinson Ave	Bell Atlantic Central Office	72 Hr	1997-06-04	RAO	1997- 10-02		B1	Oil
3-0015278	1220 Main St	Shell Service Sta	72 Hr	1997-07-07	RAO	1997- 10-29		A1	Oil
3-0015279	1220 Main St	Shell Service Sta/Lee Street	72 Hr	1997-07-07	RTN CLOSED	2005- 04-15			Oil
3-0015355	Dock St	Substation	120 Dy	1997-07-24	RAO	1998- 12-16	PHASE II	A2	Oil
3-0015633	1685 Shawsheen St	No Location Aid	72 Hr	1997-10-20	RTN CLOSED	1998- 07-06			Oil
<u>3-0015740</u>	365 Main St	Shell	72 Hr	1997-11-21	RTN	1998-			Oil

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
					CLOSED	11-16			
3-0015747	10 Erlin Ter	Nursing Home	Two Hr	1997-11-24	RAO	1998- 03-31		А3	Oil
3-0015774	1975 Main St	No Location Aid	Two Hr   1997-12-01   RAO		1998- 01-29		A1	Oil	
3-0015957	Dock St	Mass Electric Substation	Two Hr   1998-01-29   RAO   PHASE II			Oil			
3-0016742	Rte 495s At Ramp To Rte 38	No Location Aid	Two Hr	1998-05-01	RAO	1998- 06-26		A2	Oil
3-0016981	999 Whipple Rd	Rear Of Dpw Garage	72 Hr	1998-06-26	RAO	1998- 10-29		A2	Oil
3-0017040	Whipple Rd	Pole 6	Two Hr	1998-07-16	RAO	1998- 09-15		A2	Oil
3-0017072	860 East St	No Location Aid	72 Hr	1998-07-22	RTN CLOSED	1999- 02-25			
3-0017272	Old Boston Rd And Main St	No Location Aid	Two Hr	1998-09-10	RAO	1998- 12-15		A1	Oil
3-0017379	860 East St	No Location Aid	120 Dy	1998-10-01	RTN CLOSED	1999- 02-25			Hazardous Material
<u>3-0017738</u>	875 East St	Demoulas Market Basket	72 Hr	1998-12-15	RAO	1999- 05-21		A2	Oil
3-0017948	Court St	Tax Map 48 Lot 79	120 Dy	1999-02-05	RAO	1999- 06-03		A2	Hazardous Material
<u>3-0017986</u>	Main St Rte 38	Route 495 Overpass	Two Hr	1999-02-15	RAO	1999- 04-16		A1	Oil
3-0018049	1650 Shawsheen St	No Location Aid	Two Hr	1999-03-03	RAO	1999- 04-30		A1	Oil
3-0018194	1258 Main St	No Location Aid	72 Hr	1999-04-13	RTN CLOSED	2000- 09-20			Oil
3-0018204	939 East St	No Location Aid	120 Dy	1999-04-16	RAO	1999- 06-25	PHASE II	B1	Oil
3-0018251	1920 Andover St	No Location Aid	72 Hr	1999-05-03	RAO	2000- 05-08		A2	Oil
3-0018327	553 Main St	Tewksbury Square	120 Dy	1999-05-12	RAO	1999- 06-10		B1	Hazardous Material
3-0018387	365 Main St	No Location Aid	72 Hr	1999-06-09	RTN CLOSED	1999- 08-09			Hazardous Material
3-0018608	Victor Dr	No Location Aid	Two Hr	1999-08-07	RAO	2000- 06-15		A1	Oil
3-0018861	875 East St	No Location Aid	Two Hr	1999-10-19	RAO	1999- 12-02		A1	Hazardous Material
3-0019127	71 Merrimac	No Location	Two Hr	1999-12-30	RAO	2000-		A2	Hazardous

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
	St	Aid				05-05			Material
3-0019259	885 Main St	Rear Of Building	Two Hr	2000-02-08	RAO	2000- 04-04		A2	Oil
<u>3-0019435</u>	1040 Main St	No Location Aid	Two Hr	2000-04-06	RTN CLOSED	2003- 03-05			Oil
3-0019529	5 Catamount Rd	No Location Aid	Two Hr	2000-05-09	RAO	2000- 07-17		A2	Oil
3-0019603	1860 Main St	No Location Aid	Two Hr	2000-06-07	RAO	2001- 03-22		A2	Oil
3-0019799	365 East St	Tewksbury Hospital Garage	120 Dy	2000-08-01	RA0	2002- 07-01	PHASE II	B1	Oil and Hazardous Material
<u>3-0019800</u>	365 East St	Tewksbury Hospital Farmhouse	120 Dy	2000-08-01	RA0	2003- 06-30	PHASE III	B1	Hazardous Material
3-0019889	365 East St	Ash Pile Eoea 661	120 Dy	2000-08-28	RAO	2001- 08-29		A2	Hazardous Material
3-0019890	365 East St	Building Rubble Area Eoea 662	120 Dy	2000-08-28	RAO	2004- 09-10		В1	Hazardous Material
3-0020058	Livingston St	Main St	120 Dy	2000-10-19	RAO	2002- 07-23		A2	Oil
3-0020062	365 East St	Tewksbury State Hospital	Two Hr	2000-10-26	RAO	2001- 11-01		A1	Oil
3-0020187	1220 Main St	No Location Aid	120 Dy	2000-12-29	RTN CLOSED	2005- 04-15			Hazardous Material
3-0020216	365 East St	Tewksbury State Hospital	72 Hr	2000-12-12	TIERI	2001- 12-20	PHASE IV		Hazardous Material
3-0020325	1040 Main St	No Location Aid	72 Hr	2001-01-18	RTN CLOSED	2003- 03-05			Hazardous Material
3-0020338	400 Main St	Colab Rd	Two Hr	2001-01-23	RAO	2002- 01-29		A2	Hazardous Material
3-0020419	Rte 495 South @ Exit 38	Aid	Two Hr	2001-02-22	RAO	2001- 12-24		A1	Oil
3-0020776	100 Pinnacle St	Canelas Truck Repair	120 Dy	2001-06-11	RAO	2002- 06-18		A1	Hazardous Material
3-0020909	376 Marshall St	No Location Aid	Two Hr	2001-07-16	RAO	2002- 07-12		A2	Oil
3-0020968	1975 Main St	No Location Aid	Two Hr	2001-08-06	RAO	2001- 10-05		A1	Oil
3-0021076	Rte 495 North To Rt 38 W	No Location Aid	Two Hr	2001-09-11	RAO	2001- 11-05		A1	Oil

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
3-0021577	1023 East St	No Location Aid	120 Dy	2002-01-23	RAO	2012- 10-03		C2	Hazardous Material
3-0021608	1975 Main St	No Location Aid	120 Dy	2002-03-25	RAO	2006- 03-14	PHASE IV	A2	Oil and Hazardous Material
3-0021943	Rte 495 Southbound	Approx 0.5 Mile South Of Exit 39	Two Hr	2002-07-17	RAO	2002- 09-12		A1	Oil
3-0022039	1860 Main St	Rte 38	72 Hr	2002-08-19	RTN CLOSED	2003- 01-31			Oil
3-0022053	1040 Main St	Mobil Station	72 Hr	2002-08-27	RTN CLOSED	2003- 08-22			Oil and Hazardous Material
3-0022074	South St	Parcel A Of Map 114 Lots 1 And 2	120 Dy	2002-09-04	DPS	2007- 10-12			Hazardous Material
<u>3-0022075</u>	365 East St	Tewksbury Hospital	120 Dy	2002-08-28	RAO	2007- 09-17		B1	Oil and Hazardous Material
<u>3-0022076</u>	South St	Parcel A Of Map 114 Lots 1 And 2	120 Dy	2002-09-04	RAO	2002- 09-04		B1	Hazardous Material
3-0022146	1 Highwood Dr	No Location Aid	Two Hr	2002-09-26	RAO	2002- 11-26		A1	
3-0022302	333 Main St	No Location Aid	Two Hr	2002-11-13	RAO	2003- 01-13		A1	Oil
<u>3-0022631</u>	1975 Main St	No Location Aid	Two Hr	2003-02-27	RAO	2003- 04-24		A1	Oil
3-0022724	365 East St	No Location Aid	72 Hr	2003-03-28	RAO	2007- 10-18		A2	Oil
3-0022886	River Rd	Pole 96	Two Hr	2003-05-26	RAO	2003- 07-28		A2	Oil
3-0022965	939 East St	No Location Aid	Two Hr	2003-06-26	RAO	2003- 08-28		A1	Oil
3-0023107	1 Main St	Rte 38	72 Hr	2003-08-20	RTN CLOSED	2003- 10-20			Oil
3-0023154	495 N	Between Rte 133 & Rte 38	Two Hr	2003-09-08	RAO	2003- 11-13		A2	Oil
3-0023419	276 Marshall St	Fmr Kimball Greenhouses	120 Dy	2003-12-05	RAO	2003- 12-05		B1	Hazardous Material
3-0023424	1 Main St	Route 38	120 Dy	2003-12-05	RTN CLOSED	2004- 01-21			Oil
3-0023534	1975 Main St	No Location Aid	120 Dy	2004-01-21	RTN CLOSED	2004- 12-21			
<u>3-0023786</u>	940 Andover St	Mobil Service Station 01- Prj 13025	120 Dy	2004-04-21	RTN CLOSED	2004- 06-28			Hazardous Material

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
<u>3-0023841</u>	1039 Main St	Corner Of Main & Pleasant Streets	72 Hr	2004-10-20	RTN CLOSED	2005- 11-01			Hazardous Material
3-0024026	38 Florence Ave	Residence	Two Hr	2004-07-07	RAO	2007- 07-13	PHASE II	A2	Oil
3-0024167	9 Kneeland Rd	No Location Aid	72 Hr	2004-08-20	RAO	2005- 03-04		A2	Oil
3-0024334	102-112 Marston St	Rice & Road Marston Street Intersection	120 Dy	2004-10-13	RAO	2007- 10-19	PHASE II	A2	Oil and Hazardous Material
3-0024748	Dock St	Mass Elec. Satellite Office	72 Hr	2005-04-05	RAO	2005- 12-19		A2	Oil
3-0024780	1258 Main St	A & B Automotive	72 Hr	2005-04-19	RTN CLOSED	2005- 10-24			Oil and Hazardous Material
3-0025008	243 Chapman Rd	Krueger Residence	Two Hr	2005-07-05	RAO	2006- 06-30		A2	Oil
3-0025116	1992 Main St	Mobil Sta No 11715	120 Dy	2005-08-09	RTN CLOSED	2006- 10-19			Hazardous Material
3-0025154	50 Apple Hill Dr	Raytheon Bldg 300	Two Hr	2005-08-24	RAO	2005- 10-24		A2	Oil
3-0025197	Quail Run	Patten Green Condominiu ms	120 Dy	2005-08-19	RAO	2006- 03-31		A2	Oil
<u>3-0025308</u>	1992 Mains T	Mobil Station No. 11715 (Formerly 01-Pmb	120 Dy	2005-11-11	RTN CLOSED	2006- 10-19			Hazardous Material
3-0025312	1106 Chandler St	Residence	72 Hr	2005-10-13	RAO	2006- 01-09		A2	Oil
3-0025353	Patrick Rd	Green Residential Development	Two Hr	2005-10-26	RAO	2006- 05-23		A2	Oil
3-0025458	61 Idle Wild Rd	No Location Aid	Two Hr	2005-12-02	TIER1D	2006- 12-11			Oil
3-0025670	243 Chapman Rd	Krueger Residence	Two Hr	2006-02-17	RAO	2006- 06-30			Oil
3-0025809	836 North St	495 Business Center	120 Dy	2006-04-12	RAO	2007- 03-21		A1	Hazardous Material
3-0025843	38 Florence Ave	No Location Aid	120 Dy	2006-04-21	RAO	2007- 02-27		A2	Oil
<u>3-0025851</u>	553 Main St	@ Strip Mall	Two Hr	2006-04-30	RAO	2006-		A2	

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
						06-27			
3-0026412	1082 And 1120 East St	Connor Construction Company (Former)	120 Dy	2006-12-13	RAO	2006- 12-13	PHASE III	B1	Hazardous Material
3-0026451	1059 East St	No Location Aid	Two Hr	2006-12-07	RAO	2007- 02-12		A1	Oil
3-0027203	50 Kent St	Residence	Two Hr	2007-10-22	RAO	2009- 10-21	PHASE II	A2	Oil
3-0027494	2235 Main St	Spring Manufacturi ng Corp	Two Hr	2008-02-06	RAO	2008- 06-05		A2	Oil
3-0027894	1992 Main St	No Location Aid	72 Hr	2008-08-08	RTN CLOSED	2009- 07-30			Oil
3-0027950	2 Main St	Mobil Facility S/S #16175 (#01-Jfa)	120 Dy	2008-09-02	RAO	2009- 08-27		B1	Hazardous Material
<u>3-0028030</u>	1975 Main St	Shell Branded Service Station	Two Hr	2008-10-02	RAO	2010- 11-01	PHASE II	A2	Oil
3-0028209	35 Brookfield Rd	Residence	Two Hr	2008-12-14	RAO	2009- 12-19		A2	Oil
3-0028421	1049 Main St	J&S Gas	Two Hr	2009-03-31	RAO	2009- 09-25		A2	Oil
3-0028448	1795 Main St	Piccadilly Pub	120 Dy	2009-04-22	RAO	2011- 04-12	PHASE III	B1	Oil and Hazardous Material
3-0028786	16 Republic Rd	No Location Aid	120 Dy	2009-10-09	URAM	2009- 10-14			Oil
3-0028974	1920a Andover St	Wastewater Pump Station	120 Dy	2009-12-28	RAO	2010- 02-15		A1	Oil
3-0029011	1475 Main St	Route 38 North	Two Hr	2010-01-16	RAO	2010- 03-25		A1	Oil
3-0029105	2 Highwood Rd	Commercial Property	Two Hr	2010-03-08	RAO	2010- 05-10		A2	Oil
3-0029905	Andover Road	Near 1910 Andover Road	Two Hr	2011-03-31	RAO	2011- 05-31		A1	Oil and Hazardous Material
3-0029972	Adjacent To 89-96 Heritage Dr	Pad No 6	120 Dy	2011-04-29	RAO	2012- 04-30		A2	Oil
3-0030093	159 Lorum Street	Pole Mounted	Two Hr	2011-06-25	RAO	2011- 08-24		A1	

RTN	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
		Transformer							
3-0030302	1973 Main Street	Parking Lot Of Dunkin Donuts	Two Hr	2011-09-12	RAO	2011- 11-17		A2	Oil
3-0030343	I-495 South	I-495 Southbound Median Area At Rt 38	Two Hr	2011-09-29	RAO	2011- 12-05		A2	Oil
<u>3-0030426</u>	18 Rhoda Road	18 Rhoda Road	Two Hr	2011-11-02	RAO	2012- 01-03		A2	Oil
<u>3-0030741</u>	Route 495 Northbound	Route 495 Northbound @ Mile Marker 94.2	Two Hr	2012-04-25	RAO	2012- 07-02		A2	Oil
3-0030742	Route 495 Northbound	495 North South Of North St Overpass	Two Hr	2012-04-25	RAO	2012- 06-29		A2	Oil
3-0031288	500 Woburn Street	Pad-Mounted Electrical Transformer	Two Hr	2012-12-19	RAO	2013- 02-15		A2	
3-0031640	10 Main Street	Market Basket Property	Two Hr	2013-07-10	RAO	2013- 09-04		A1	Oil
3-0032362	Route 93 North	Mile Marker 35.8	Two Hr	2014-08-13	PSNC	2014- 10-20		PN	Oil
3-0032507	160 River Road	Cell Tower	Two Hr	2014-10-17	PSNC	2014- 12-15		PN	Oil
3-0033116			Two Hr	2015-08-30	PSNC	2015- 10-27		PN	Hazardous Material
<u>3-0033252</u>	357 Old Boston Road	End Of Exit 39 Off-Ramp	End Of Off- Ramp, Exit 39 From 495 North	2015-11-23	PSNC	2016- 01-22		PN	Oil
<u>3-0033605</u>	50 Chapman Road	National Grid Facility	Two Hr	2016-05-26	PSNC	2016- 07-25		PN	Oil
3-0033760	Lee Street To Chandler Street	andler No Location		2016-08-19	URAM	2016- 08-26			Oil
<u>3-0034015</u>	90 River Road	Saint Mary's Cemetery	Two Hr	2016-12-29	PSNC	2017- 02-27		PN	Oil

#### Landfills

According to the Massachusetts Department of Environmental Protection Bureau of Waste Prevention, there are no operating landfills in Tewksbury at the present time. There are two (2) active composting sites, according to the Bureau of Waste Prevention. One for municipal purposes located at 999 Whipple Road and the other for commercial purposes located at 1079 South Street. There are five (5) inactive/closed landfills, as listed below in Table 26.

**Table 26: Inactive Landfills** 

ID	Current Status/ Years of Operation	Site/Location	Owner Type	Landfill Type
SL0295.001	Inactive /1957-1988	Rocco's Landfill 1069 South Street	Private	MSW Landfill
SL0295.002	Inactive/1955-1957	Tewksbury Landfill Martha Avenue	Municipal	MSW Landfill
SL0295.003	Inactive/Unknown	Tewksbury Stump Dump Pine Street	Private	MSW Landfill/ Woodwaste
SL0295.004	Inactive/Unknown	Tewksbury Metals Dump Off East Street Road	Private	MSW Landfill
SL0295.005	Inactive/Unknown-1985	Tewksbury Hospital Landfill Maple and Livingston Streets	State	MSW Landfill

Source: Massachusetts Department of Environmental Protection, Bureau of Waste Prevention

#### **Ground and Surface Water Pollution**

Nonpoint source pollution (NPS) and point source pollution has the ability to threaten public health, natural resources and the environment. Polluted runoff is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and man-made pollutants, finally depositing them into lakes, rivers, wetlands, and ground water. Such pollution comes mainly from human activity and sometimes from the natural landscape. Common human activities that impact the environment include land clearing, fertilizing, salting and sanding roads, improper motor oil disposal, pet waste and failing septic systems. In addition, surface water resources and wetlands are vulnerable to runoff from roadways and from inadequate erosion control measures. Stormwater management will be Tewksbury's largest challenge in controlling pollution in the future. The Town is a member of the Northern Middlesex Stormwater Collaborative, and is working to address the many requirements contained in EPA's MS4 Permit.

Long Pond has a long history of poor water quality. Several environmental studies have been performed to identify appropriate remediation actions. The Town has taken steps to implement many of the recommended measures with a goal of transforming the pond into a recreational asset for the community.

#### **Sewer Improvements**

A review of the sewer system has indicated that extensive infiltration and inflows (I/I) are occurring. Due to the increasing wastewater conveyance and treatment costs, this infiltration and inflow has created a financial burden on the Town. Infiltration and inflow problems are more evident in high groundwater months and rain/wet weather events, during which flooding occurs. The sewer collection systems within flood prone areas are hit the hardest, with excessive flows during these events. The I/I influences are partly attributed to leaky pipe joints and manholes in high groundwater and flood prone areas. Significant flow increases are well documented in spring/flood prone months and baseline I/I is also evident entering the system in wet areas of the Town.

The Town has initiated a project to flood proof the existing sewer manhole structures located within the 100-year flood plain. Sewer lines in this area will be tested and sealed due to the degradation of the joints caused by flooding conditions. Sewer manhole structures will be assessed on a case-by-case basis and the appropriate waterproofing technology will be selected based on manhole field conditions. If this project is implemented, it is expected to reduce the effects of infiltration and inflow by roughly 75% to 80% in the treated areas, greatly reducing the conveyance and treatment costs. It will provide protection of existing sewer infrastructure during 100-year flood events. The cost estimate for this project is \$517,400.

## **Development Regulations**

The Town regulates erosion control issues through their Stormwater Management & Erosion Control Bylaw and Section 8.3 (Erosion and Sediment Control) of the Subdivision Rules and Regulations. The Planning Board requires that adequate protective measures be provided during development and construction to minimize adverse impacts to surface water. In addition, the Conservation Commission has jurisdiction over all wetlands issues

The Conservation Commission has a policy of no disturbance or alteration within 100 feet of any water resource area (vegetated wetlands wet meadow, marsh, swamp, bog, river, brook, stream, pond or lake). Additionally, the Commission requires a minimum continuous 25-foot wide buffer zone strip of undisturbed, natural vegetation between the proposed activity and the resource area(s); and a 50-foot buffer strip between any proposed structure and resource area(s), providing for a further 25-foot buffer strip setback between the buffer strip and the structure. The Planning Board requires any parking lot with more than 40 parking spaces to include landscaped area(s), which cannot be less in area than five (5) percent of the total area of the parking lot and which must be in addition to any minimum open space requirement. This is an important step towards controlling excess impervious cover and stormwater runoff.

As required by the state, the Conservation Commission has adopted the Department of Environmental Protection Stormwater Management Standards in issuing Orders of Conditions for work within areas protected under the state Wetlands Protection Act (M.G.L. c.131, Sec. 40) and its applicable Regulations (310 CMR 10.00). The Stormwater Management and Erosion Control Bylaw was adopted under authority granted by the Home Rule Amendment, and pursuant to the regulations of the federal Clean Water Act (40 CFR 122.34). The Planning Board administers and regulates activities under this bylaw, with periodic review from others, including the Conservation Commission. The Planning Board has adopted and may periodically amend the Stormwater Regulations in order to mitigate potential future land hazards. The Wetlands Protection Bylaw is enforced and administered by the Conservation Commission.

#### Section 5: Lands of Conservation and Recreation Interest

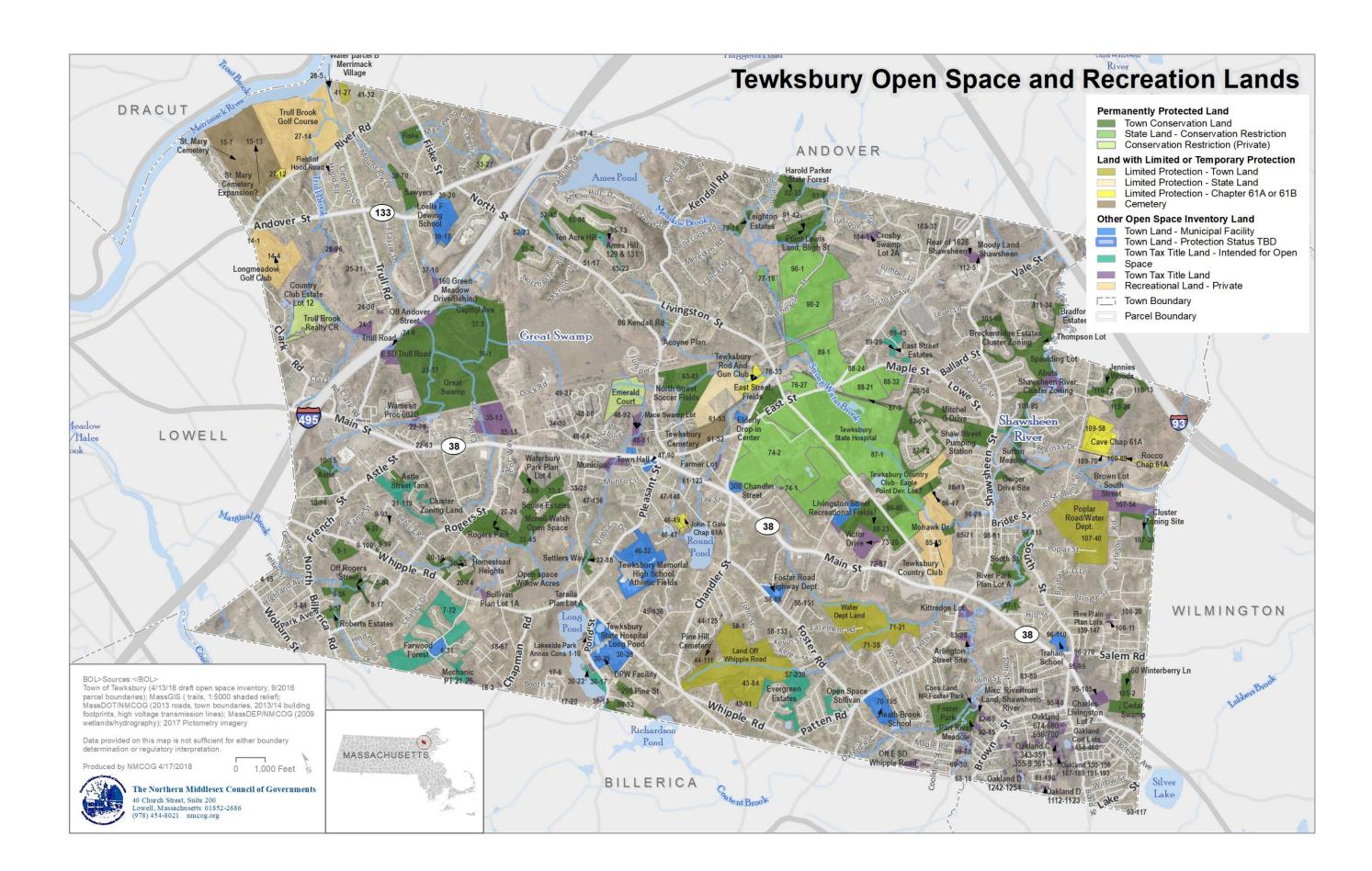
Open space in Tewksbury includes undeveloped natural landscapes such as woodlands, fields and waterways, as well as historic landscapes such as farmland, the town common, the Tewksbury Hospital grounds, and the town's cemeteries. Tewksbury's open spaces also provide passive recreation opportunities. Since most of the town is zoned for single-family residential development, as housing growth continues there will be a demand for active recreation, as well as passive recreation. Maintaining the balance between protecting open space and providing for recreational opportunities, while providing land for other future municipal uses, will be an issue that will need to be addressed going forward.

Since the previous Open Space and Recreation Plan was completed, Tewksbury has continued to protect open space lands and to improve and expand its recreational facilities. In addition, town staff and the Open Space and Recreation Committee has spent considerable time improving the accuracy of the town's land inventory. This effort has included addressing outstanding issues through title and deed research relative to certain lands that were acquired over the past three decades through developer donations, tax title, or through Open Space Residential subdivisions. Much progress has been made to date, and the Town is committed to devoting additional resources to clarify title and deed issues on the remaining unresolved parcels.

Appendix E contains the entire Tewksbury open space inventory in tabular form by ownership, location, acreage, and level of protection. Map 8, Lands of Conservation and Recreation Interest, provides a comprehensive depiction of the Town's open space inventory. A summary of the acreage of open space and recreation lands by level of protection is provided below.

#### **Permanently Protected Lands**

As summarized in Table 26 on page 81, 1,866 acres of land are permanently protected in the Town of Tewksbury. These parcels have legally enforceable restrictions against disposition or a change in use and are protected from future development, regardless of ownership. Of this acreage, seventeen (17) parcels, comprising 1,063 acres, are protected through a Conservation Restriction. Much of this acreage (970 acres) is owned by the Commonwealth and includes the grounds of Tewksbury Hospital, while five parcels, comprising 93 acres, are privately owned. The Town manages and operates Livingston Park located within close proximity to the State Hospital facility. Eighty-six (86) parcels comprising 803 acres are held by the Conservation Commission and subject to Article 97. The largest piece of town-owned conservation land is the 121.5-acre Great Swamp.



#### **Lands with Limited or Temporary Protection**

There are twenty-nine parcels of land, comprising 702 acres with limited or temporary protection. These lands include Chapter 61, 61A or 61B parcels. These statutes allow the town to tax private parcels according to their forestry, agricultural or recreation use value, not their market value. In exchange for the fairly significant tax reduction that comes with a Chapter 61A or 61B agreement, the property owner grants a right of first refusal that allows the town to acquire the land before it is converted to another use. Tewksbury can also can assign its right of first refusal to a non-profit conservation organization. All of the town's Chapter 61 properties would be vulnerable to development if their chapter 61, 61A or 61B agreements were not renewed. By law, Tewksbury has only 120 days to act on its statutory right of first refusal. Among the larger parcels included under this program are the golf courses, with Trull Brook comprising 107.54 acres, Long Meadow comprising 51.2 acres and Tewksbury Country Club occupying 39.48 acres.

Cemetery lands also fall under the limited protection category. Although it is highly unlikely that a cemetery will be redeveloped, there is no legal prohibition that prohibits the relocation of graves and development of the property. In Tewksbury, there are 139 acres of cemetery land, the largest of which is St. Mary's Cemetery at 106.32 acres. Other lands with limited or temporary protection include 147.69 acres of Water Department lands.

#### **Unprotected Lands**

There are 249 parcels of unprotected open space and recreation lands within the Town of Tewksbury, comprising 249 acres. Most of these parcels were acquired through tax title, with 17 parcels (29 acres) acquired specifically for open space preservation. The future of the remaining parcels is unknown and under discussion by town officials at this time. In addition, some municipal properties are not protected but are under public ownership, such as the schools, Town Hall, the Senior Center and the Library, as summarized in the following table. Many of these municipal parcels are under review as their protection status is unknown presently.

Table 27: Tewksbury Open Space Lands Summarized by Protection Status

Land by Level of Protection/Category	Assessor Parcel Acreage	Number of Parcels
Permanently Protected	1,866	103
Conservation Restriction (Private)	93	5
State Land - Conservation Restriction	970	12
Town Conservation Land	803	86
Limited or Temporary	702	29
Cemetery	139	8
Chapter 61A or 61B	241	12
Limited Protection - State Land	50	1
Limited Protection - Town Land	271	8
Unprotected	363	249
Recreational Land - Private	6	3
Town Tax Title Land	227	229
Town Tax Title Land - Intended for Open Space	29	17
Under Review	192	90
Town Land - Municipal Facility	42	2
Town Land - Protection Status TBD	80	76
Under Review	70	12
Grand Total	3,123	471

#### **Recreation and Park Lands**

The Tewksbury School Department coordinates the use of the recreational facilities at the town's parks and schools, and manages summer programs for children. Like many communities, Tewksbury does not sponsor or manage any sports leagues, as they are organized and funded by private organizations. The private sport leagues and the individual schools are responsible for the maintenance of some of the facilities.

The Town oversees nine (9) public parks encompassing approximately 145.04 acres: Common Street (Town Common), East Street, Foster Park, Livingston Street Park, Melvin Rogers Park, Melrose Avenue, Mechanics Park, Frasca Field and Mahoney Park. Most parks listed above include sports fields. Livingston Street Park is the most popular and includes 35+/- acres of land that offers a variety of uses. Livingston Street Park was recently renovated and includes athletic fields, basketball and tennis courts, and a playground for children. Nearly all organized park and recreation activities take place at the Livingston Street and East Street sites.

In addition to athletic facilities, the town offers recreational trails at the town's water supply land and land adjacent to Melvin Rogers Park. Melvin Rogers Park, Foster Park,

Mechanics Park and the Melrose Avenue lot are largely unused as parks and unknown to the general public. Melvin Rogers Park and Foster Park present significant recreation potential. Mahoney Park provides access to Long Pond and a small canoe launch area. Tewksbury's eight public schools provide 19 additional athletic fields, tennis and basketball courts and playgrounds. The schools also have indoor gymnasiums that accommodate activities for children and adults.

Table 28 on the following page summarizes the recreation facilities at town parks and schools.

**Table 28: Recreation Facilities** 

	Map	Block	Acres	Address	Level of Protection	Owner	Use	Condition	Recreation Potential	Access	Facilities Available
Common Street	47	88	0.10	East Street	Permanent	Town	Passive	Good	Passive	Public	Bandstand
East Street Fields	76	32	15.0	Chandler Street	Permanent	State	Active	Good	Active	Public	3 baseball fields
Foster Park	69	109	23.0	Heath Street	Permanent	Town	Passive	Good	Active	Public	passive
Livingston Street Park	86	23,	35.80	Livingston Street	Permanent	Town	Active	Good	Active	Public	9 baseball fields, 2 football fields, 1 soccer field, 3 tennis courts, 2 basketball courts, tot lot/playground/walking loop, Youth Center, Parks Department, skateboard park, pickle ball court, picnic/concert pavilion
Melrose Avenue	3	16	0.06	Melrose Avenue	Permanent	Town	Passive	Good	Passive	Public	passive
Melvin Rogers Park	20	26	27.5	Rogers Street	Permanent	Town	Passive	Good	Active	Public	Passive, walking trails
Frasca Field	63	43	40.0	North Street	Permanent	Town	Active	Good	Active	Public	Soccer fields, baseball field
Mechanics Park	18	2	2.48	Van Buren Road	Permanent	Town	Active	Good	Active	Public	passive
Mahoney Park	31	10	1.10	Whipple Road	Permanent	Town	Passive	Good	Passive	Public	Long Pond access path and canoe launch, picnic tables
Ryan School	47	76	1.37	135 Pleasant St	Limited	Town	Active	Good	Active	Public	2 multi-purpose fields, 1 football field and football practice field, basketball court, walking track
Dewing School	39	17	20.38	1475 Andover St	Limited	Town	Active	Good	Active	Public	1 ball field, 1 multi-purpose field, playground, picnic pavilion
Heath Brook School	70	195	18.6	199 Shawsheen Street	Limited	Town	Active	Good	Active	Public	1 baseball field, 1 basketball court, playground
North Street School	62	11	17.0	133 North Street	Limited	Town	Active	Good	Active	Public	1 basketball court, ball field, playground
Trahan School	96	110	6.5	30 Salem Road	Limited	Town	Active	Good	Active	Public	1 baseball field, playground
Tewksbury High School	46	32	55.49	320 Pleasant St	Limited	Town	Active	Good	Active	Public	1 baseball field, 1 softball field, 1 soccer field, 1 field hockey field, track, field house, 5 tennis courts, tot playground, indoor track

Table 28 (cont'd): Recreation Facilities

	Map	Block	Acres	Address	Level of Protection	Owner	Use	Condition	Recreation Potential	Access	Facilities Available
Tewksbury Wynn Middle School	73	19	21.82	90 Victor Drive	Limited	Town	Active	Good	Active	Public	2 baseball fields, 1 soccer field, 1 multi- purpose field, ropes course
Center School	47	40	25.0	139 Pleasant St	Limited	Town	Active	Good	Active	Public	Football field, multi-purpose field, tot lot

Shawsheen Launch	68	16	25	2000 Whipple Road	Permanent	Town	Passive	Good	Active	Public	Fishing area, picnic table, kayak launch
The Overlook	97	115	9.55	760 South Street/Behind	Permanent	Town	Passive	Good	Active	Public	Kayak launch area, bench for wildlife observation, trail
State Hospital	90	1	38	Pinnacle Street	Limited	State	Passive	Good	Active	Public	Trails, benches
State Hospital	90	2	74	Pinnacle Street	Limited	State	Passive	Good	Active	Public	Trails, benches
State Hospital	89	1	55.5	630 East Street	Limited	State	Passive	Good	Active	Public	Trails, benches
State Hospital	88	24	7.35	East/Maple Streets	Limited	State	Passive	Good	Active	Public	Trail area
State Hospital	88	21	19.1	Maple Street	Limited	State	Passive	Good	Active	Public	Trail area
State Hospital	87	1	162.2	Livingston Street	Limited	State	Passive	Good	Active	Public	Trail, field, historic cemetery
Poplar well fields	107	40	79	62 Carleton Road	Limited	State	Passive	Okay	Active	Public	Trail potential
Chandler well fields	43	84	118.11	990 Chandler Street	Limited	State	Passive	Good	Active	Public	Trail

## **Section 6: Community Vision**

As discussed earlier, a Visioning Session was held on January 26, 2017 at the Tewksbury Memorial High School. The visioning session emphasized brainstorming and open discussion. Participants who attended the session were asked to address the following:

- What are the Town's strengths and assets in terms of its Open space and Recreation facilities and programs?
- What are the community's weaknesses and liabilities in this regard?
- What opportunities does the Town have to improve upon or expand its existing open space and recreation facilities and programs?
- What challenges lie ahead? What concerns need to be addressed in order to move forward to meet the Town's open space and recreation needs?

In addition, a breakout session was included as part of the Visioning exercise where attendees mapped the town's scenic resources, located the open spaces and recreation areas that they visited most frequently on a map, and identified additional locations that the Town should acquire or protect in the future. The agenda for the Visioning Session and the Visioning Session Summary can be found in Appendix D. A more detailed discussion of the Visioning Session can also be found in Section 7 of this document.

Public input was also gathered from a written survey, as will be discussed in detail in Section 7 of this document. In addition, the Open Space and Recreation Committee met monthly during the development of the Plan, and all meetings were open to public and advertised via postings at the Town Clerk's office and on the town's website. Information was also circulated through social media.

#### **Statement of Open Space and Recreation Goals**

Tewksbury residents recognize the need to continue and expand conservation effort to ensure that the resources they value and that ultimately contribute to the town's quality of life will be protected. The Town recognizes that growth within its boundaries will continue and that new development must be balanced with the need to preserve the town's valuable open spaces and natural resources. The Town also recognizes the importance of providing quality recreational opportunities for all residents. Therefore, the Town is committed to embracing the goals and action plan established in this document.

Based on the input received through the public engagement process, the Committee has established the following goals for the 2018 Open Space and Recreation Plan:

1. Preserve, protect and provide access to the rivers, brooks, ponds, wetlands, and floodplain in Tewksbury;

- 2. Preserve and protect the Town's natural resources, including agricultural lands, forests, and outstanding natural features for future generations;
- 3. Provide accessible, well-balanced active and passive recreation opportunities for all Town residents:
- 4. Ensure adequate maintenance of conservation areas, open spaces and recreation facilities in the interest of protecting the Town's investment and reducing long-term costs;
- 5. Educate and engage the Town's residents regarding existing open space and recreation areas, and encourage enjoyment, use, and stewardship;
- 6. Preserve important historical and archaeological sites and resources;
- 7. Enhance and protect the scenic and aesthetic character of the Town;
- 8. Work with regional, federal and state agencies, and non-profit organizations to develop a trail network linking open spaces within Tewksbury, as well as establishing linkages to trail facilities in adjoining communities; and
- 9. Identify and acquire open space and recreation lands for permanent protection, as properties and funding become available.

## **Section 7: Analysis of Needs**

Throughout the plan development process, many open space, conservation, recreation and capital needs were identified through discussions with town departments, input received during the visioning session, in meetings with the Open Space and Recreation Committee, and through analysis of the written survey and demographic data, as presented in earlier sections of this document. The needs assessment outlined below serves as the basis for formulating the goals, objectives and action plan.

## A. Summary of Resource Protection Needs

The Town of Tewksbury contains many natural and cultural resources, open spaces and conservation properties, and recreational facilities and assets that are at risk from future development and lack of maintenance and investment. Future attention should be paid to protecting areas with historic resources, agricultural landscapes, steep slopes, forested lands, riverfront areas, water bodies and water resources, wetland resource areas, floodplains, and wildlife habitat.

Tewksbury continues to have some remnants of small town character as is evident in its remaining farmland, open spaces and historical areas. Of the 3,123 acres of existing open space, only 1,866 acres are fully protected. Another 702 acres are semi-protected through ownership by the Town or the State. The remaining 363 acres of unprotected open space is in jeopardy of being developed over the next decade. Agricultural lands are particularly vulnerable to development because they tend to be cleared, flat land. In the past, the lack of sewer service and the prevalence of soils unsuitable for septic systems slowed development in these areas. However, recently a municipal sewer system was completed that serves the entire town.

The analyses of the natural resources revealed other fragile lands at risk of development, such as steep slopes, forested areas, river and waterfront land, wetland buffer areas, and floodplains. The Town has protected some of these areas through acquisition and zoning changes. The town zoning regulations supplement state regulations relative to development near wetlands and flood plains. However, the majority of the fragile resources are owned privately.

Since the Merrimack River is the sole source for the town's water supply, protection of the adjacent wetlands and floodplains is a priority. The Shawsheen River Watershed throughout the town is a wonderful natural asset but is also a significant flood hazard. Extensive development along the river has altered drainage patterns, due to the impermeability of structures and pavements, and siltation. As land development continues, Tewksbury's extensive network of wetlands is being encroached upon through building in

the wetland buffers. The Wetland Protection Act and Rivers Act, coupled with the Town's Floodplain Overlay District, Wetland Protection Bylaw, and Stormwater regulations provide the Town with the necessary legal tools to regulate development in these resource areas.

Access to the rivers and ponds is a priority, as identified in both the public survey and the visioning session. Only a small percentage of waterfront land is publicly-owned. Future land acquisitions, conservation restrictions, or access easements could expand the town's trail system and allow for greater public use.

Much of Tewksbury's open space is isolated and fragmented with few connecting links or corridors. There are opportunities to acquire or protect lands adjacent to the existing conservation and recreation areas to provide continuous access for recreational activities and wildlife habitat. As will be discussed below, 86% of residents responding to the written survey for the Open Space and Recreation Plan Update feel that there is a need to preserve open space in Tewksbury.

Tewksbury has some limited areas with active agriculture and some of these properties are classified under Chapter 61A. The Town needs to be able to act quickly to exercise its right of first refusal, should this land become available in the future.

## B. Summary of Community Needs

A written survey was distributed to each Tewksbury household. (A copy of the survey is included in Appendix B.) The survey was formulated using the State's prototype as model, and customized to fit Tewksbury. Most respondents completed the survey online through SurveyMonkey, although hard copies were also available at the Town Hall, Library and Senior Center. A total 924 survey responses were received and analyzed. The results of the survey are summarized in this section of Plan.

Question 1 asked how long they have lived in Tewksbury. As can be seen in Table 29 below, just over half of the respondents have lived in town for over twenty years, while only 13.73% of the respondents were relative newcomers who have resided in town for less than five years.

**Table 29: Q1- How long have you lived in Tewksbury?** 

Answer Choices	Responses
Less than 5 years	13.73%
	126
5-20 years	36.06%
	331
20+ years	50.22%
	461
Total no. of responses to Question 1	918

Table 30 shows the age distribution of those residing in the responding households. Over 16% of the households have children under the age of 5 years, while over 27% have children between the ages of 5 and 11 years. Twenty percent (20%) of the responding households have children in the 12-18 year age group. Young adults (ages 19-29 years) reside in 20% of the responding households. Those in the 30-44 year age group reside in 39.41% of the responding households, while those in the 45-59 age group live in 43.43% of the households responding. Seniors age 60 years and over reside in 30.94% of the households responding.

Table 30: Q2-Which age groups reside in your household?

Answer Choices	Responses
4 or under	16.83%
	155
5-11 years	27.36%
	252
12-18 years	20.09%
	185
19-29 years	20.30%
	187
30-44 years	39.41%
	363
45-59 years	43.43%
	400
60 years or older	30.94%
	285
	<b>Total Respondents for Question 2: 921</b>

Respondents were asked to identify the area of town where they reside. As seen in Table 31 below, 29% of the respondents live in North Tewksbury, while nearly 30% live in South Tewksbury, 10% reside in East Tewksbury, 14.29% in West Tewksbury and 16.7% reside in the Center of Town.

Table 31: Q3- Please check the area of Town that best describes where you reside:

Answer Choices	Responses
	29.12%
North Tewksbury	265
	29.89%
South Tewksbury	272
	10.00%
East Tewksbury	91
	14.29%
West Tewksbury	130
	16.70%
Center of Town	152
	Total Respondents for Question 3:
	910

In Question 4, respondents were asked how important it is to preserve historic resources, and open space for water protection, conservation or recreation. Based on the responses provided, it appears that residents feel all of these issues should be given high priority, with particular value placed on open space preservation for water protection and recreation purposes.

Table 32: Q4-In your opinion, how important is it to preserve the following? Please rank in order

of importance on a scale of 1 to 6, with 1 being the most important.

	1	2	3	4	5	6	Total
Buildings or places of historical value	13.82%	11.24%	15.76%	15.89%	16.54%	26.74%	
	107	87	122	123	128	207	774
Open space to meet water needs	23.68%	20.79%	15.66%	17.50%	14.34%	8.03%	
	180	158	119	133	109	61	760
Open space to meet conservation needs	19.04%	21.94%	20.18%	16.65%	14.88%	7.31%	
	151	174	160	132	118	58	793
Open space for active recreation (e.g.	23.35%	13.73%	16.23%	16.48%	14.23%	15.98%	
athletic fields)	187	110	130	132	114	128	801
Open space for passive recreation (e.g.	20.22%	23.82%	17.49%	17.37%	15.14%	5.96%	
hiking)	163	192	141	140	122	48	806
Open space for other activities (e.g.	8.04%	10.87%	16.19%	14.16%	19.82%	30.92%	
fishing)	71	96	143	125	175	273	883

Respondents were asked if they would be willing to take certain actions to preserve open space, such as contributing to a trust, selling land to the town at a reduced price, donating land, supporting user fees, or paying higher taxes for open space preservation. Of those responding, 88% would support open space if taxes were not raised, while only 32% would support a tax increase specifically to fund open space preservation. Over half of the respondents (57%) would vote for a town-supported land acquisition program, and 45% would support seasonal or yearly fees to use a facility or area. About one-third of the respondents would sell land to the town at fair market value, or would sell or donate a conservation restriction. Approximately, 30% of the respondents would rewrite their deed to limit future development, as shown in Table 33.

Table 33: 05-To preserve open space, would you be willing to do any of the following?

Table 33. Q3-10 preserve open space, would you be wining to u	Yes	No	Not	Total
			sure	
Contribute some land to the town/state/land trust	13.38%	61.00%	25.61%	
	104	474	199	777
Donate money to buy land	25.54%	49.43%	25.03%	
	200	387	196	783
Rewrite your deed to limit future development	30.35%	42.41%	27.24%	
	234	327	210	771
Sell land to the town at a reduced cost	10.88%	67.75%	21.37%	
	84	523	165	772
Sell or contribute a conservation restriction to protect your land from	33.72%	34.24%	32.04%	
future development	260	264	247	771
Sell land to the town at fair market value	36.25%	40.42%	23.34%	
	278	310	179	767

Table 33 (cont'd): Q5-To preserve open space, would you be willing to do any of the following?

	Yes	No	Not	Total
			sure	
Support tax increases for open space preservation	32.03%	47.72%	20.25%	
	253	377	160	790
Donate some of your land to the Town or a land trust	9.54%	69.67%	20.78%	
	73	533	159	765
Support seasonal or yearly fees for an area	45.48%	31.59%	22.93%	
	357	248	180	785
Vote for a town-supported land acquisition program	57.02%	16.56%	26.42%	
	451	131	209	791
Support open space preservation if taxes were not raised	88.12%	3.67%	8.22%	
	697	29	65	791
Donate a conservation restriction on your land to limit land use	23.54%	39.40%	37.06%	
	181	303	285	769

Respondents were asked to rank the top three open space, recreational facilities, programs (public or private) or places that they use most frequently. As shown in Table 34 below, the top five choices included the Library, Livingston Park and Playground, the Tewksbury State Hospital land, the rivers and ponds, and the school playgrounds and athletic fields.

Table 34: Q6- Rank the top three open space, recreation facilities, programs (public or private) or places in Town that you and your family use by placing the number 1, 2, & 3 next to the

appropriate category

· · · · · · · · · · · · · · · · · · ·	Rank #1 (most frequent)	Rank #2	Rank #3	Total
Soccer fields	54.68%	21.58%	23.74%	
Soccer ricius	76	30	33	139
Football fields	31.25%	28.75%	40.00%	137
1 octour ricius	25	23	32	80
Softball fields	31.91%	29.79%	38.30%	
	15	14	18	47
Baseball fields	37.74%	40.57%	21.70%	
	40	43	23	106
Tennis courts	25.58%	46.51%	27.91%	
	11	20	12	43
Basketball courts	13.64%	59.09%	27.27%	
	6	26	12	44
Lacrosse field	16.13%	45.16%	38.71%	
	5	14	12	31
Library	50.11%	28.70%	21.19%	
	227	130	96	453
State Hospital land	40.00%	37.30%	22.70%	
	74	69	42	185
Town conservation land	23.78%	34.27%	41.96%	
	34	49	60	143
Livingston Park/Playground area	34.04%	37.12%	28.84%	
	144	157	122	423
Rivers and ponds	25.62%	31.25%	43.13%	
	41	50	69	160

Table 34 (cont'd): Q6- Rank the top three open space, recreation facilities, programs (public or private) or places in Town that you and your family use by placing the number 1, 2, & 3 next to

the appropriate category

the appropriate category	Rank #1 (most frequent)	Rank #2	Rank #3	Total
Golf course	37.93%	35.63%	26.44%	
	33	31	23	87
Rogers Park	13.51%	32.43%	54.05%	
_	5	12	20	37
Historic sites	9.38%	28.13%	62.50%	
	6	18	40	64
None	43.86%	10.53%	45.61%	
	25	6	26	57
School playgrounds and athletic fields	18.24%	29.05%	52.70%	
(please specify which schools below):	27	43	78	148

In Question 7, respondents were asked to identify the top five recreational facilities that they feel are needed most. The most popular responses included bicycle and hiking trails, cross-country skiing trails, large parks with many facilities, public access to water bodies, and conservation areas, as shown in Table 35 below.

Table 35: Q7-Please check the top five recreational facilities that you feel are needed most

·	#1	#2	#3	#4	#5	Total
Bike trails	39.81%	21.55%	12.41%	15.93%	10.30%	
DIKC Clairs	170	92	53	68	10.3070	427
Conservation areas	29.94%	19.43%	19.43%	12.74%	18.47%	727
Conscivation areas	94	61	61	40	10.47 70 58	314
Children's play areas	27.67%	26.48%	21.34%	11.07%	13.44%	314
Gillaren s piay areas	70	67	54	28	34	253
Family picnic areas	4.12%	22.35%	20.00%	24.71%	28.82%	
ranny promo ar oac	7	38	34	42	49	170
Softball field	11.11%	37.04%	22.22%	18.52%	11.11%	
	3	10	6	5	3	27
Baseball field	20.59%	20.59%	23.53%	25.00%	10.29%	
	14	14	16	17	7	68
Basketball courts	15.91%	22.73%	18.18%	18.18%	25.00%	
	7	10	8	8	11	44
Hiking and cross-country	17.63%	30.48%	25.44%	13.85%	12.59%	
skiing trails	70	121	101	55	50	397
Ice skating rink	15.22%	22.46%	23.91%	19.57%	18.84%	
G	21	31	33	27	26	138
Large park with many	14.33%	19.21%	21.65%	24.70%	20.12%	
facilities	47	63	71	81	66	328
Local neighborhood parks	9.05%	14.66%	20.69%	31.03%	24.57%	
-	21	34	48	72	57	232
Outdoor amphitheater	3.09%	9.28%	27.84%	25.77%	34.02%	
_	3	9	27	25	33	97
Public access to water	13.03%	18.24%	25.73%	24.76%	18.24%	
bodies	40	56	79	76	56	307

Table 35 (cont'd): Q7-Please check the top five recreational facilities that you feel are needed most

	#1	#2	#3	#4	#5	Total
Recreation center	10.24%	16.87%	26.51%	23.49%	22.89%	
building	17	28	44	39	38	166
Soccer field	22.73%	18.18%	34.09%	11.36%	13.64%	
	10	8	15	5	6	44
Swimming pool	17.18%	19.02%	18.40%	26.38%	19.02%	
	28	31	30	43	31	163
Tennis courts	0.00%	14.29%	35.71%	14.29%	35.71%	
	0	4	10	4	10	28
Library	39.06%	18.52%	12.46%	15.15%	14.81%	
-	116	55	37	45	44	297
Driving range or golf	10.00%	11.67%	13.33%	23.33%	41.67%	
course	6	7	8	14	25	60
Disc golf	14.81%	3.70%	11.11%	25.93%	44.44%	
-	4	1	3	7	12	27
Dog park	17.14%	16.19%	16.67%	21.90%	28.10%	
	36	34	35	46	59	210
Other	38.64%	9.09%	4.55%	9.09%	38.64%	
	17	4	2	4	17	44

In Question 8, respondents were asked how satisfied they are with recreational facilities and activities for adults and youth. Based on the survey results, it appears that residents are much more satisfied with recreational facilities and activities for youth than for adults. Approximately, 53% of the respondents are very satisfied or satisfied with youth recreation facilities and programs, compared to 27% being very satisfied with recreation facilities and programs for adults, as shown in Table 36. Similarly, nearly 15% of the respondents were either very dissatisfied or dissatisfied with recreation facilities and programs for youth, compared to 28% being either very dissatisfied or dissatisfied with recreation facilities and programs for adults.

Table 36: Q8-How satisfied are you with recreational facilities and activities in Tewksbury for adults and youth

	Very	Satisfied	Neutral	Dissatisfied	Very	Don't	Total	Weighted
	satisfied				dissatisfied	know		Average
Adults	5.05%	22.34%	38.30%	20.61%	7.58%	6.12%		
	38	168	288	155	57	46	752	2.78
Youth	15.30%	37.84%	22.40%	10.93%	3.83%	9.70%		
	112	277	164	80	28	71	732	3.21

As shown in Table 37 on the following page, 78% of the respondents indicated that they go out of town for open space or recreation facilities.

Table 37: Q9-Do you go out of town for open space or recreation facilities?

Answer Choices	Responses
No	21.77%
	165
Yes	78.23%
	593
Total	758

More detailed written responses to this question indicate that Tewksbury residents frequent the following geographic destinations for open space or recreation:

- Andover (57 responses)
- New Hampshire (51)
- Billerica (38-does not include those that visit the facilities below)
- Lowell (31)
- Wilmington (26- does not include those that visit the facilities below)
- Chelmsford (21)
- North Andover (19-does not include those that visit the state forest)

Facilities frequented by Tewksbury residents include the following:

- Harold Parker State Forest-North Andover (41 responses)
- Bruce Freeman Rail Trail-Lowell, Chelmsford, Westford (34)
- Lake Quannapowitt-Wakefield (31-8 other individuals indicated that they go to Wakefield but were not specific)
- Ipswich River Park North Reading (26; another 14 individuals indicated they go to North Reading but were not specific)
- Great Brook Farm-Carlisle (23; another 12 individuals indicated they go to Carlisle but were not specific)
- Horn Pond-Woburn (20; another 8 individuals indicated that they go to Woburn but were not specific)
- Shedd Park-Lowell (19)
- Manning State Park Billerica (19)
- Wilmington Dog Park (19)
- Silver Lake-Wilmington (19)
- Minuteman Bike Path-Bedford, Concord, Lexington, Arlington (18)
- Haggett's Pond- Andover (17)
- AVIS Conservation trails-Andover (15).

Activities pursued by Tewksbury residents in other communities included the following. Respondents provided no indication of where they specifically pursued these activities:

- Hiking (47 responses)
- Visit bike trails/bike (36)
- Walking (22)
- Swimming (19)
- Visit dog parks (other than Wilmington)
- Visit the ocean/beaches (22)
- Ice skating/skating (16).

In Question 10, respondents were asked to indicate which landscapes, views, buildings, locations or other resources most symbolize Tewksbury's unique character. The following responses were provided by fifteen or more people responding to the survey:

- Tewksbury State Hospital and grounds (177 responses)
- Town Hall (100)
- Livingston Park/playground (79)
- Library (55)
- Town Center (51)
- Mico Kaufman sculptures (48)
- Town Common/gazebo (43)
- East Street Farm/Farm stand (40)
- Tewksbury Country Club (25)
- Open space lands/forests (21).

In Question 11, respondents were asked to indicate whether they consider Tewksbury to be a rural town, a bedroom community, a suburb of Lowell, or a town in transition. As shown in Table 38 below, nearly 53% consider Tewksbury to be a town in transition, while nearly 21% feel it is a bedroom community, 13% consider it to be a rural town, and 13% feel it is a suburb of Lowell.

Table 38: Q11- Do you consider Tewksbury to be:

Answer Choices	Responses
A rural town	13.16%
	100
A bedroom community	20.92%
	159
A suburb of Lowell	13.03%
	99
A town in transition	52.89%
	402
Total	760

In Question 12, respondents were asked what they like most and least about Tewksbury's environment and outdoor experiences and places. The following responses were provided by 15 or more people:

#### **Like Most**

- Livingston Park (141)
- State Hospital and grounds (65)
- Conservation land/open space (50)
- Athletic fields (38)
- Parks/playgrounds (32)
- Open fields/farmland (31)
- Rural character/small town feel (21)
- Proximity to highways (20)
- Sense of community/family oriented town (18)
- Library (15)

#### **Like Least**

- Overdevelopment/number of condos and apartments (134)
- Lack of sidewalks (115)
- Route 38 traffic, appearance and vacant buildings (99)
- Too few trails for walking, hiking and bicycling (68)
- Lack of an actual Town Center with shops and amenities (29)
- Traffic (19)
- Lack of a swimming facility (town beach, pool or splash park) (19)
- Limited areas for dog walking/lack of a dog park (15)
- Poor maintenance of roads and sidewalks.

Question 13 asked whether respondents feel that there is a need to preserve open space and natural areas in Tewksbury. As shown in Table 39 below, over 86% of the respondents agreed that there is a need to preserve these areas.

Table 39: Q13- Do you feel there is a need to preserve open space and natural areas in Tewksbury?

Answer Choices	Responses
Yes	86.27%
	666
No	3.24% 25
	25
Not sure	10.49%
	81
Total	772

As shown in Table 40, similar results were seen in the responses to Question 14 where residents were asked to rank the importance of preserving open space, historical resources

and agricultural lands on a scale of 1 to 5. Preserving open space to meet water and conservation needs was the top ranked #1 response, followed by preserving open space for recreation.

Table 40: Q14 How important is it to you to preserve:

	1 - Very	2 - Important	3 - Neutral	4 - Less	5 - Not	Total
	important			important	important	
Buildings of	27.40%	37.79%	19.97%	9.45%	5.40%	
historical value	203	280	148	70	40	741
Places of	28.73%	40.22%	17.65%	9.03%	4.38%	
historical value	210	294	129	66	32	731
Farms/	42.93%	35.60%	14.40%	5.03%	2.04%	
agricultural lands	316	262	106	37	15	736
Open spaces to	50.61%	34.19%	12.11%	2.83%	0.27%	
meet water and conservation needs	376	254	90	21	2	743
Open spaces to	46.57%	38.76%	9.29%	3.77%	1.62%	
meet active recreation needs	346	288	69	28	12	743
Open spaces for	43.26%	40.03%	10.65%	4.45%	1.62%	
aesthetics or passive recreation	321	297	79	33	12	742

Question 15 asked residents to indicate specific town actions that they favor for preserving open space. As shown in Table 41 below, 75% of those responding favor the use of Community Preservation Act funds, 53% favor the town purchase of land, 49% favor mandatory Open Space Residential design, 39% favor agricultural preservation restrictions, 38.5% favor the receipt of conservation restrictions, while 32% favor the purchase of development rights for certain parcels.

Table 41: Q15-What town actions do you favor to preserve open space?

Answer Choices	Responses
Use of Community Preservation Act (CPA) funds	75.00%
	471
Receipt of conservation restrictions (CR)	38.54%
	242
Town purchase of land	53.34%
	335
Mandatory Open Space Residential design	49.20%
	309
Agricultural Preservation Restrictions (APRs)	39.17%
	246
Purchase development rights for certain parcels	32.48%
	204
Total Respondents:	628

Question 16 asked residents how often they visit various recreation areas in town. As seen in Table 42 below, the Town Common, Livingston Park, East Street, and Frasca Field are among the most frequently visited recreation areas.

Table 42: Q 16-How often do you visit the following areas for recreation?

	15+ visits/year	10-15 visits/year	5-10 visits/year	1-5 visits/year	Never
Common Street/Town	6.73%	5.05%	12.20%	49.23%	26.79%
Common	48	36	87	351	191
East Street	18.08%	6.89%	12.91%	21.95%	40.17%
	126	48	90	153	280
Foster Park	1.66%	1.06%	3.32%	10.73%	83.23%
	11	7	22	71	551
Livingston Street Park	37.28%	15.65%	14.83%	21.50%	10.75%
C	274	115	109	158	79
Melvin Rogers Park	1.80%	1.35%	4.05%	12.29%	80.51%
	12	9	27	82	537
Melrose Avenue	0.15%	0.00%	1.21%	5.74%	92.90%
	1	0	8	38	615
Mechanics Park	0.60%	0.60%	1.95%	6.46%	90.39%
	4	4	13	43	602
Frasca Field	17.89%	4.76%	5.34%	16.88%	55.12%
	124	33	37	117	382
Mahoney Park	1.50%	0.60%	2.55%	7.66%	87.69%
,	10	4	17	51	584

Question 17 asked respondents to indicate the most important specific open space or recreation action that the Town should take in the next five years. The following responses were provided by 15 or more people:

- Construct and maintain additional trails for walking, hiking, and bicycling (115 responses)
- Prohibit/limit future construction of housing, condos and apartments (75)
- Maintain existing recreation and open space facilities (66)
- Construct sidewalks (41)
- Preserve and protect existing open space parcels, open fields and farmland (31)
- Establish a dog park
- Improve and beautify Route 38 (23)
- Preserve/purchase the State Hospital land
- Focus on creating a definable town center with businesses and amenities (23)
- Purchase additional open space (20)
- Protect/save/maintain historic buildings (such as Pike House, State Hospital, and Marshall House) (18)
- Preserve, update and improve lands and facilities along East Street and Livingston Street (18)
- Continue to clean up and protect ponds (16)
- Improve and update athletic fields (16)

• Advertise, promote and increase awareness of recreation and open space opportunities through a published guide/map (15)

## **Visioning Session**

A Visioning Session was held on January 26, 2017 at the Tewksbury Memorial High School. The visioning session emphasized brainstorming and open discussion. Participants who attended the session were asked to address the following:

- What are the Town's strengths and assets in terms of its Open space and Recreation facilities and programs? The following top strengths were identified:
- Library
- o Farm stands
- o Rail trails
- Town owns large properties that are scattered throughout town and are varied in size
- o Bay Circuit Trail, other trails
- Youth sports
- Ames Pond
- Wildlife
- Soccer fields
- State Hospital land
- o Long Pond
- o Shawsheen River
- o Merrimack River
- Community garden
- Livingston Street fields
- Wetlands
- Great Swamp
- What are the community's weaknesses and liabilities in this regard? The following top weaknesses and liabilities were identified:
- Lack of sidewalks
- Lack of wildlife habitat assessments
- Invasive species
- Litter
- o Dwindling amount of open space
- Lack of signs
- Lack of swimming opportunities
- Lack of parking
- Lack of access

- Encroachment
- o Maintenance of open space, stewardship
- o No list of accessible open space areas available to the public
- Lack of town policy
- Funding for open space
- o Environmental challenges, Long Pond algae bloom
- What opportunities does the Town have to improve upon or expand its existing open space and recreation facilities and programs? The following top opportunities were identified:
- o Bike paths
- o Walking trails at Livingston Wood area
- Connect different Open space areas
- Town access to State Hospital land
- Web site outreach/information & education
- Education & Stewardship
- o Camping area in Town
- Education center kiosks
- o Make students aware of litter impact
- Collect climate data
- Local farming opportunities
- Dog park
- o Volunteerism
- o Conserve property at 2000 Whipple Road
- Historic areas
- What challenges lie ahead? What concerns need to be addressed in order to move forward to meet the Town's open space and recreation needs? The following top challenges and concerns were outlined:
- Overdevelopment
- Uncontrolled development
- Litter & trash dumping
- Invasive species
- Lack of awareness
- Mosquitos
- Loss of funding
- Climate change
- Emissions from vehicle traffic
- Pollution of waterways

In addition, a breakout session was included as part of the Visioning exercise where attendees mapped the town's scenic resources, located the open spaces and recreation areas that they visited most frequently on a map, and identified additional locations that the Town should acquire or protect in the future.

# Massachusetts Outdoors 2012: Statewide Comprehensive Outdoor Recreation Plan (SCORP 2012)

Massachusetts Outdoors 2012! Statewide Comprehensive Outdoor Recreation Plan (SCORP), developed by the Massachusetts Executive Office of Environmental Affairs, Division of Conservation Services, assessed the recreation needs of the state by region. The intent of the document is to direct investment decisions in a manner that best meets the needs of the Commonwealth's citizen.

Within *SCORP 2012*, Tewksbury is considered part of the northeastern region. According to the report, the most popular recreational activities within the region include swimming, walking, sightseeing and tours, hiking and fishing. In addition, baseball, sunbathing, horseback riding, off-road vehicle driving, snowmobiling, boating (motorized) and surfing were identified as being more popular in the northeast region than in other areas of the Commonwealth. Soccer, tot lots, and pond hockey were also found to be popular activities. The Northeast region has an abundance of water resources and conservation areas, which supports the preferences listed above.

According to the survey conducted for *SCORP 2012*, the northeast region residents strongly support improving access to recreational facilities for persons with disabilities, and support prioritizing funding for maintenance of existing facilities and new open space acquisition. The Tewksbury input process yielded results similar to the SCORP survey, as outlined in the previous section, with youth sports, walking, hiking, bicycling and access to the town's water bodies being of particular important. Land preservation and maintenance of existing facilities were also identified as being of high importance.

### C. Management Needs and Potential Changes of Use

Based on the input received during the plan development process, Tewksbury residents support the future acquisition and protection of open space and are concerned about recent growth and development in the community, particularly as it relates the large apartment and condo complexes. Residents are also concerned about the loss of agricultural land and are interested in development regulations that preserve both open space, expand the town's trail network, and increase access to the town's water bodies.

There is consensus among town residents that Tewksbury needs to improve its town center, to improve walkability, expand use of the town common, and create a more cohesive design character. The Town is interested in working with neighboring communities to establish regional trails, including completion of the Bay Circuit Trail.

Residents interested in seeing water quality improved through the management and removal of weeds and invasives. Like many communities, Tewksbury is faced with a limited amount of funding for land acquisitions and improvements to existing facilities, so maintenance of existing asset is of high interest. There is a desire to promote the open space areas and recreation facilities to residents, through maps, brochures and the Town's website. The Town has an active Open Space and Recreation Committee that is taking steps to increase stewardship using volunteer resources. Since completion of the previous Open Space and Recreation Plan, the Town has expended considerable resources to improve its recreation facilities, and is continuing to work on increasing the number of ADA accessible properties, as outlined in Appendix G.

#### **Section 8: Goals and Objectives**

The goals and objectives for the Tewksbury Open Space and Recreation Plan were determined through the analysis of existing conditions and data, and by assessing and analyzing community needs through the survey and Visioning Sessions. Input was also sought from local officials, board and committees, town departments and staff, and through social media and local and regional organizations. The goals and objectives are outlined below, as they serve as the framework and foundation for the Seven-Year Action Plan that is presented in Section 9. Nine long-range goals have been formulated, and are followed by the objectives for achieving them.

### Goal 1: Preserve, protect and provide access to the rivers, brooks, ponds, wetlands, and floodplain in Tewksbury

#### **Objectives:**

- 1.1- Identify and protect upland buffer and recharge areas adjacent to water resources.
- 1.2- Acquire/protect additional land along the Merrimack and Shawsheen Rivers and other waterways through easement or acquisition, to ensure future protection of riparian areas.
- 1.3- Continue acquisition and protection of additional tracts of land for conservation, flood storage, water supply protection and recreation.
- 1.4 Work toward compliance with EPA stormwater regulations (MS4 permit) in order to reduce nonpoint source pollution
- 1.5- Educate municipal staff, homeowners and businesses regarding the judicious use of lawn fertilizers, pesticides and deicing chemicals
- 1.6- Remove debris from wetlands, ponds, rivers, streams, detention ponds and drainage swales throughout the Town.
- 1.7- Remove and control invasive species.
- 1.8- Periodically review and update the town's Wetland Protection Bylaw and Stormwater Management and Erosion Control Regulations to ensure that they are current with State standards and practices, and are being properly enforced.
- 1.9- Continue DPW Program to open culverts to control flooding
- 1.10- Develop river and pond access that is permanently protected, safe and accessible. Where appropriate, include a boat ramp/canoe launch
- 1.11- Enhance partnerships with non-profits, such as the Merrimack River Watershed Council and the Shawsheen Watershed Environmental Action Team (SWEAT)
- 1.12- Work with the Board of Health to reinstate the annual Hazardous Waste Collection day

# Goal 2: Preserve and protect the Town's natural resources, including agricultural lands, forests, wildlife and outstanding natural features for future generations

#### **Objectives:**

- 2.1- Identify, acquire and protect by easement or fee, important wildlife habitat and other lands with unique natural features or landscapes
- 2.2- Identify and protect endangered species in cooperation with the Natural Heritage and Endangered Species Program
- 2.3- Protect key parcels that lie within or adjacent to environmental, cultural or historic resources
- 2.4- Protect and enhance wildlife habitat
- 2.5- Review the town's development regulations, policies and planning documents to ensure that dedicated open space is properly protected

### Goal 3: Provide accessible, well-balanced active and passive recreation opportunities for all Town residents

#### **Objectives:**

- 3.1- Develop signage to demarcate town-owned land, trails, boat launches, and water resources
- 3.2- Provide adequate parking at and enhance pedestrian/bicycle access to athletic fields and recreation areas
- 3.3- As resources become available, provide access for persons with disabilities
- 3.4- Provide additional walking, hiking and biking opportunities, as well as other recreational opportunities

# Goal 4: Ensure adequate maintenance of conservation areas, open spaces and recreation facilities in the interest of protecting the Town's investment and reducing long-term costs

#### **Objectives:**

- 4.1- Encourage civic participation in the development and maintenance of conservation and recreation facilities
- 4.2- Develop a comprehensive maintenance plan for all Town-owned and controlled conservation and recreation facilities
- 4.3- Promote coordination and collaboration between the Town and youth sports organizations

- 4.4- Encourage the establishment of a non-profit entity to accept private contributions, such as donations and fees, to fund operation and maintenance expenses not covered under the Town's budget
- 4.5- Reduce vandalism and illegal dumping
- 4.6- Create a stewardship program for the care and monitoring of the town's open space and recreation areas
- 4.7- Develop rules and regulations for use of the town's open space and recreation lands

# Goal 5: Educate and engage the Town's residents regarding existing open space and recreation areas, and encourage enjoyment, use, and stewardship

#### **Objectives:**

- 5.1- Develop neighborhood parks to meet the needs of residents
- 5.2- Create an Open Space and Recreation booklet and story map describing facilities such as parks, hiking/biking/walking trails and open space areas. The link to the booklet and story map could be placed on the Town's website.

### Goal 6: Preserve important historical and archaeological sites and resources Objectives:

- 6.1- Update the historic resources inventory
- 6.2- Recommend structures for the State and National Register of Historic Places
- 6.3- Update and strengthen the Town's Demolition Delay Bylaw
- 6.4- Improve the Town Center Overlay District by improving the design guidelines
- 6.5- Protect key parcels, structures and landmarks within or adjacent to historic resources

# Goal 7: Enhance and protect the scenic and aesthetic character of the Town Objectives:

- 7.1- Work with the State to protect the remaining safe structures on the State Hospital property
- 7.2- Designate Scenic Roads through the creation of a local scenic roads bylaw, in accordance with the Scenic Roads Act, M.G.L. Chapter 40, Section 15C

Goal 8: Work with regional, federal and state agencies, and non-profit organizations to develop a trail network linking open spaces within Tewksbury, as well as establishing linkages to trail facilities in adjoining communities

#### **Objectives:**

- 8.1- Provide increased opportunities for walking and bicycling, such as working with Tewksbury Rail Trails (TRT) and Bay Circuit Trail (AMC)
- 8.2- Encourage the granting of easements and the development of trails on private, quasi-public and state-owned land
- 8.3- Continue to work with the Bay Circuit Alliance and Appalachian Mountain Club on the planning and design of an interregional trail
- 8.4- Work with the Department of Fisheries and Wildlife (DFW) to establish a greenway along the Merrimack and Shawsheen Rivers

### Goal 9: Identify and acquire open space and recreation lands for permanent protection, as properties and funding become available

#### **Objectives:**

- 9.1- Identify additional parcels of conservation and recreation interest
- 9.2- Seek funding through local, state and federal grant programs for the acquisition and protection of open space and recreation properties
- 9.3- Evaluate the feasibility of modifying the town's development regulations to encourage the protection of open space and natural resources through developer incentives
- 9.4- Evaluate existing open space parcels and ensure permanent protection.

#### Section 9: Seven-Year Action Plan

The table below outlines the Seven-Year Action Plan for implementing the goals and objectives described in the previous sections of this document. Implementation responsibility is identified and the implementation timeframe for each action is specified as follows:

- Ongoing: implementation occurs on an ongoing basis throughout the seven-year implementation process;
- Short-term: implementation is planned within two years;
- Intermediate: implementation is planned in years two and/or three;
- Long-term: implementation is planned in years 4 through 7.

Based on the variability of many factors involved in implementing the Action Plan, such as funding, the need for Town Meeting approval, and legal and permitting issues, the Committee has concluded that structuring the implementation plan using the above timeframes is more practical and realistic than tying each action to a very specific implementation date which may not be achievable. The ability of the Town to implement the action items below is predicated on the appropriation of requisite funding, and is tied to the overall economic health of the town and the Commonwealth. Map 10 on page 109 shows the location of each project identified in the Action Plan.

Goal 1: Preserve, protect and provide access to the rivers, brooks, ponds, wetlands, and floodplain in Tewksbury

Action	Implementation responsibility	Potential Funding Sources	Implementation Timeframe
Objective 1.1: Identify and pro	tect upland buffer and re	charge areas adjacent t	o water resources.
1.1(a). Continue to educate residents regarding vegetation management on rivers, ponds, and streambanks through written material, local cable, social media and the town website	Conservation Commission	Conservation Commission budget, possible grant funding	Ongoing
1.1(b). Continue to identify upland buffer zones through town staff and educate landowners on the benefits of conservation easements through the creation of a brochure that will be made available on the town website.	Conservation Commission, Community Development Department	Conservation Commission budget, state grant funds and private contributions	Ongoing

		1	1
1.1(c).Consider changes to the	Conservation	Town budget,	Intermediate
local wetland bylaw to address	Commission	Conservation Trust	
concerns identified in the		Fund, Wetland	
buffer zone report developed		Protection Fund	
by the Conservation			
Commission, which indicated			
that existing buffer zone are			
not of adequate size for optimal			
wetland protection.			
Objective 1.2: Acquire/protect	additional land along the	Merrimack and Shaws	sheen Rivers and other
waterways through easement			
1.2(a). Monitor the availability	Conservation	Conservation	Ongoing
of land along the Merrimack	Commission in	Commission, CPA	
and Shawsheen Rivers, and	partnership with state	funds, grant funds,	
work with property owners to	and federal agencies,	and donations	
protect riparian lands through	non-profits and Open		
acquisition or easement.	Space and Recreation		
acquisition of casement.	Committee		
1.2(b). Educate residents on	Conservation	Conservation	Ongoing
the importance of protecting	Commission and Open	Commission budget,	
land along the rivers by	Space and Recreation	contributions from	
developing a brochure for	Committee	volunteer committee	
distribution at town events and	Gommittee	members	
posting on the website, and by		members	
sending a letter to owners of			
key parcels.	itian and nuctoation of ad	ditional tracts of land 4	for conservation, flood storage,
(Injective 1 3.) unitimite armite			
		uitional tracts of famu i	tor conscivation, nood storage,
water supply protection and re	ecreation.		
water supply protection and re 1.3(a).Develop a prioritization	creation. Conservation	Town budget, CPA	Short-term
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to	Conservation Commission, Public		
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest	Conservation Commission, Public Works Department,	Town budget, CPA	
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to	Conservation Commission, Public Works Department, Facilities Director,	Town budget, CPA	
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest	Conservation Commission, Public Works Department, Facilities Director, Open Space and	Town budget, CPA	
water supply protection and real 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.	Conservation Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee	Town budget, CPA funds, grants	Short-term
water supply protection and red 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term	Conservation Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation	Town budget, CPA funds, grants  Town budget,	
water supply protection and real 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term acquisition plan for key parcels	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open	Town budget, CPA funds, grants  Town budget, volunteer hours from	Short-term
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term acquisition plan for key parcels identified through the	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation	Short-term
water supply protection and real 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term acquisition plan for key parcels	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and	Short-term
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term acquisition plan for key parcels identified through the	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and	Short-term
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term acquisition plan for key parcels identified through the	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation	Short-term
water supply protection and re 1.3(a).Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b).Develop a long-term acquisition plan for key parcels identified through the prioritization plan	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members	Short-term  Intermediate
water supply protection and re 1.3(a).Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b).Develop a long-term acquisition plan for key parcels identified through the prioritization plan  1.3(c).Take advantage of	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Committee	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA	Short-term
water supply protection and real 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term acquisition plan for key parcels identified through the prioritization plan  1.3(c). Take advantage of opportunities to purchase open	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Commission, Open Space and Recreation Committee	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants,	Short-term  Intermediate
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term acquisition plan for key parcels identified through the prioritization plan  1.3(c). Take advantage of opportunities to purchase open space and conservation lands	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Committee	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants, private foundation	Short-term  Intermediate
<ul> <li>water supply protection and red</li> <li>1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.</li> <li>1.3(b). Develop a long-term acquisition plan for key parcels identified through the prioritization plan</li> <li>1.3(c). Take advantage of opportunities to purchase open space and conservation lands by utilizing resources available</li> </ul>	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Commission, Open Space and Recreation Committee	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants,	Short-term  Intermediate
water supply protection and re 1.3(a).Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b).Develop a long-term acquisition plan for key parcels identified through the prioritization plan  1.3(c).Take advantage of opportunities to purchase open space and conservation lands by utilizing resources available through CPC, state grants, and	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Committee	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants, private foundation	Short-term  Intermediate
<ul> <li>water supply protection and real 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.</li> <li>1.3(b). Develop a long-term acquisition plan for key parcels identified through the prioritization plan</li> <li>1.3(c). Take advantage of opportunities to purchase open space and conservation lands by utilizing resources available through CPC, state grants, and partnerships with non-profits</li> </ul>	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Committee  Conservation Committee	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants, private foundation grants	Short-term  Intermediate  Ongoing
<ul> <li>water supply protection and real 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.</li> <li>1.3(b). Develop a long-term acquisition plan for key parcels identified through the prioritization plan</li> <li>1.3(c). Take advantage of opportunities to purchase open space and conservation lands by utilizing resources available through CPC, state grants, and partnerships with non-profits</li> <li>1.3(d). Analyze tax title parcels</li> </ul>	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Committee  Conservation Commission, DPW, Open Space and Recreation Committee  Conservation Commission, DPW, Open Space and Committee	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants, private foundation grants  Town budget,	Short-term  Intermediate
<ul> <li>water supply protection and real 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.</li> <li>1.3(b). Develop a long-term acquisition plan for key parcels identified through the prioritization plan</li> <li>1.3(c). Take advantage of opportunities to purchase open space and conservation lands by utilizing resources available through CPC, state grants, and partnerships with non-profits</li> <li>1.3(d). Analyze tax title parcels that were not properly deeded</li> </ul>	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Commission, DPW, Open Space and Recreation Committee  Conservation Commission, Open Commission, Open Commission, Open	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants, private foundation grants  Town budget, volunteer hours by	Short-term  Intermediate  Ongoing
water supply protection and re 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.  1.3(b). Develop a long-term acquisition plan for key parcels identified through the prioritization plan  1.3(c). Take advantage of opportunities to purchase open space and conservation lands by utilizing resources available through CPC, state grants, and partnerships with non-profits  1.3(d). Analyze tax title parcels that were not properly deeded as open space or recreation to	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Committee  Conservation Committee  Conservation Commission, DPW, Open Space and Recreation Committee  Conservation Commission, Open Space and Recreation Commission, Open Space and Recreation	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants, private foundation grants  Town budget,	Short-term  Intermediate  Ongoing
<ul> <li>water supply protection and real 1.3(a). Develop a prioritization plan for parcels of interest to identify those of highest priority.</li> <li>1.3(b). Develop a long-term acquisition plan for key parcels identified through the prioritization plan</li> <li>1.3(c). Take advantage of opportunities to purchase open space and conservation lands by utilizing resources available through CPC, state grants, and partnerships with non-profits</li> <li>1.3(d). Analyze tax title parcels that were not properly deeded</li> </ul>	Conservation Commission, Public Works Department, Facilities Director, Open Space and Recreation Committee Conservation Commission, Open Space and Recreation Committee  Conservation Commission, DPW, Open Space and Recreation Committee  Conservation Commission, Open Commission, Open Commission, Open	Town budget, CPA funds, grants  Town budget, volunteer hours from Conservation Commission and Open Space and Recreation Committee members  Town budget, CPA funds, state grants, private foundation grants  Town budget, volunteer hours by	Short-term  Intermediate  Ongoing

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1.3(e). Purchase key parcels	Conservation	Town funds/CPA,	Ongoing
with high conservation and	Commission, Open	state and federal	
recreation value as	Space and Recreation	grants, private	
opportunities arise, as	Committee, Community	contributions	
identified through the	Preservation		
acquisition plan	Committee		
Objective 1.4: Work toward co	mpliance with EPA storn	water regulations (MS	4 permit) in order to reduce
nonpoint source pollution.	•	5 (	•
1.4(a). Continue to participate	DPW, Conservation	Town funds	Ongoing
in the Northern Middlesex	Commission, Town		
Stormwater Collaborative	Planner		
(NMSC) to address stormwater			
issues across municipal			
boundaries			
1.4(b). Inventory, map, and	DPW, Conservation	Town funds	Short-term
assess the conditions of the	Commission		
town's stormwater			
infrastructure			
1.4(c).Detect and eliminate	DPW, Conservation	Town funds	Ongoing
illicit discharges	Commission, Board of	10WII Iulius	
intere discriarges	Health		
1.4(d). Educate the public and	Conservation	Town funds, NMSC	Ongoing
homeowners on actions that	Commission, Board of	10Wii Tuiius, Tuiisu	
they can take to help eliminate	Health, Engineering		
polluted stormwater runoff	Treaten, Engineering		
1.4(e). Educate pet owners on	Conservation	Town funds	Ongoing
the proper disposal of pet	Commission, Board of	Town funds	Ongoing
waste	Health, DPW		
1.4(f).Evaluate the water	DPW, Conservation	Town funds	Short-term
quality at stormwater outfalls	Commission	101111111111111111111111111111111111111	
1.4(g). Sweep streets and clean	DPW	DPW budget	Ongoing
catch basins annually			
1.4(h) Educate town	DPW, Conservation,	Town budget, NMSC	Ongoing
departments on good	Schools		
housekeeping practices			
through the NMSC training			
program			
1.4(i).Maintain stormwater	DPW, School	Town budget	Ongoing
pollution prevention plans for	Department, Public	10WH budget	
municipal facilities	Safety		
Objective 1.5: Educate municip		businesses regarding	the judicious use of lawn
fertilizers, pesticides and deici			
1.5(a). Develop an educational	Conservation	Town budget	Short-term
brochure for homeowners on	Commission, Board of	2	
lawn care and gardening best	Health		
practices			
1.5(b). Develop guidance for	Conservation	Town budget	Short-term
businesses and landscaping	Commission, Board of		
companies relative to best	Health		
practices for grounds	Trouidi		
maintenance and landscaping			
services			
301 11003	1	l .	1

1.5(c). Educate businesses, DPW staff and private snow removal contractors on the proper use of deicing chemicals	DPW, Conservation Commission	Town budget	Ongoing
Objective 1.6: Remove debris f throughout the Town.	rom wetlands, ponds, riv	ers, streams, detention	ponds and drainage swales
1.6(a). Conduct a bi-annual (Spring and Fall) town-wide clean-up day	Board of Selectmen, Conservation Commission, Board of Health, DPW and non- profits	Town budget and volunteer time	Ongoing
Objective 1.7: Remove and con	trol invasive species.		
1.7(a). Develop a plan for controlling invasive species: identify priority locations for removal and control, investigate available resources and responsible party for overseeing the program	Conservation Commission, DPW	Town budget and volunteer time	Short-term
1.7(b). Implement invasive species control and eradication program on an ongoing basis	Conservation Commission, DPW, non-profits	Town budget and volunteer time	Intermediate
1.7(c). Educate homeowners, farmers and gardeners on invasive plants, through an informational pamphlet and via material posted on the town website, in order to prevent the introduction of invasives.	Conservation Commission and Garden Club	Town budget and volunteer time	Ongoing
Objective 1.8: Periodically rev	iew and update the town	's Wetland Protection E	Bylaw and Stormwater
<b>Management and Erosion Cont</b>		e that they are current v	with State standards and
practices, and are being prope			
1.8(a). Revise the Town's wetland protection bylaw to implement the recommendations in the Wetland Protection Bylaw Study.	Conservation Commission, Town Meeting	Town budget	Intermediate
1.8(b). Periodically review and update the stormwater management and erosion control regulations to ensure that they meet the needs of the town and are compliant with state and federal regulations.	Conservation Commission, Planning Board, Town Meeting	Town budget	Ongoing
Objective 1.9: Continue DPW P			
1.9(a). Monitor and control beaver dams to prevent the flooding of roadways and residential property	Conservation Commission, Board of Health, DPW	Town budget	Ongoing
1.9(b). Address roadway and neighborhood flooding through	Conservation Commission, Planning	Town budget, private developer resources	Ongoing

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drainage and culvert upgrades,	Board, DPW	(through better site	
and improved stormwater		design practices), and	
management practices,		state and federal	
including the use of low impact		grants	
development techniques by			
private developers			
1.9(c). Work with the Central	Board of Health,	Town budget, State	Ongoing
Mass Mosquito Control	Conservation	budget	- 8- 8
Program to address problem	Commission, Central		
drainage areas	Mass Mosquito Control,		
aramage areas	DPW		
Objective 1.10: Develop river	and pond access that is p	ermanently protected,	safe and accessible. Where
appropriate, include a boat ran	np/canoe launch		
1.10(a). Continue access	Conservation	Town budget and	Short-term
improvements to Long Pond on	Commission, Open	volunteers	
Whipple Road	Space and Recreation		
	Committee		
1.10(b). Pursue access	Conservation	Town budget and	Short-term
improvements to the	Commission, Open	volunteers	
Shawsheen River at Mahoney's	Space and Recreation		
Park	Committee		
1.10(c). Provide access to Ames	Planning Board,	Town budget,	Intermediate
Pond through the Planning	Conservation	volunteers and	mediace
Board approval process	Commission,	private donations	
Board approvar process	Community	private donations	
	Development		
	department		
1.10(d). Incorporate the public	Conservation	Town budget and	Short-term
access areas identified by the	Commission, Open	volunteers	Short-term
Shawsheen Watershed		volunteers	
	Space and Recreation		
Association into the Town's	Committee		
inventory of access			
improvement projects	0	m 1 1 . (OD.)	
1.10(e). Work with owners of	Conservation	Town budget/CPA	Ongoing
privately-owned,	Commission,		
undevelopable parcels along	Community		
the rivers to acquire the	Preservation		
property through fee, easement	Committee		
or donation			
1.10(f). Pursue public access to	Planning Board,	Town	Long-term
Round Pond through Planning	Conservation	budget/CPA/private	
Board approval conditions for	Commission, Open	donation	
development projects	Space and Recreation		
	Committee		

Objective 1.11: Enhance partnerships with non-profits, such as the Merrimack River Watershed Council and the Shawsheen Watershed Environmental Action Team (SWEAT)				
1.11(a). Partner with the watershed councils and other non-profits on community events and education initiatives related to conservation and environmental protection	Conservation Commission, Open Space and Recreation Committee, watershed councils	Town budget, volunteer hours	Ongoing	
1.11(b). Organize a recreational event along the Shawsheen River (kayaking, canoeing) to increase awareness of water quality issues	Conservation Commission, Open Space and Recreation Committee, watershed councils and other interested non-profits	Volunteer hours	Ongoing	
Objective 1.12: Work with the 1.12(a). Work with the Town Manager, Board of Selectmen and Board of Health to identify funding needed to resume the Annual Hazardous Waste collection day	Board of Health to reinst Town Manager, Board of Health, Board of Selectmen, Recycling Committee	ate the annual Hazardo Town budget	Short-term	
1.12(b). Investigate a potential regional partnership with adjoining communities for Hazardous Waste Day cost sharing	Town Manager, Board of Health, Board of Selectmen	Town budget	Intermediate	

## Goal 2: Preserve and protect the Town's natural resources, including agricultural lands, forests, wildlife and outstanding natural features for future generations

Objective 2.1: Identify, acquire and protect by easement or fee, important wildlife habitat and other lands				
with unique natural features or landscapes				
2.1(a). Develop an inventory of	Conservation	Town budget	Intermediate	
key wildlife habitat areas,	Commission, Open			
natural features and	Space and Recreation			
landscapes that should be	Committee			
targeted for protection				
2.1(b). Upon completion of the	Conservation	Town budget	Long-term	
inventory formulate a long-	Commission, Open			
term protection/acquisition	Space and Recreation			
strategy for key parcels	Committee			
2.1(c). Inform and educate	Open Space and	Town budget and	Ongoing	
town residents about wildlife	Recreation Committee,	volunteers		
habitat value, unique features,	Conservation			
and other lands through	Commission and			
brochures, presentations and	Community			
guided trail walks	Development			
	Department			

Objective 2.2. Identify and	toot andangered anasis s	in cooperation with the	Notural Hanitage and
Objective 2.2: Identify and pro Endangered Species Program	tect endangered species i	in cooperation with the	e Naturai Heritage and
2.2(a). Work with the Natural Heritage and Endangered Species Program to identify priority habitat areas, including vernal pools, and to identify species of concern	Conservation Commission, Natural Heritage and Endangered Species Program	Town budget, state assistance, volunteers	Intermediate
2.2(b). Create a Tewksbury Wildlife Friends group	Open Space and Recreation Committee, Conservation Committee, Community Development Department	Town budget and volunteers	Short-term
2.2(c). Enhance the relationship between town staff and the newly created Tewksbury Wildlife Friends group	Open Space and Recreation Committee, Conservation Committee, Community Development Department	Town budget and volunteers	Intermediate
2.2(d). Submit required documentation to the State needed to certify confirmed vernal pools	Conservation Commission	Town budget, Volunteers	Intermediate
			, cultural or historic resources.
2.3(a). Inventory and map key parcels that lie within or adjacent to environmental, cultural or historic resources	Town GIS staff, Historical Commission, Conservation Commission, Open Space and Recreation Committee	Town budget/CPA	Short-term
2.3(b). Based on the completed inventory, prioritize parcels for protection and formulate a strategy for protecting the parcels through fee, easement, or conservation restriction	Historical Commission, Conservation Commission, Community Preservation Committee, Open Space and Recreation Committee	Town budget, volunteers	Intermediate
Objective 2.4: Protect and enha		T	
2.4(a). Work with the Division of Fisheries and Wildlife and non-profit organizations, such as Audubon and Trustees of Reservations, to protect and enhance wildlife areas	Conservation Commission, Division of Fisheries and Wildlife, universities, Friends group	Town budget, State resources	Intermediate
2.4(b). Utilize volunteer residents to certify vernal pools	Conservation Commission, Community Development Department	Town budget, volunteers	Ongoing

Objective 2.5: Review the town's development regulations, policies and planning documents to ensure that

dedicated open space is properly protected			
2.5(a). Review the town's	Planning Board,	Town budget	Short-term
Zoning Bylaw and Subdivision	Community		
Regulations to ensure that	Development		
open space requirements are	Department		
adequate, that open space			
donations are being properly			
recorded, and that open space			
parcels created through OSRD			
projects are under the care and			
custody of the Conservation			
Commission, a suitable non-			
profit or a homeowners'			
association	_		
2.5(b). Periodically review the	Planning Board,	Town budget	Ongoing
town's Master Plan, Hazard	Engineering, DPW and		
Mitigation Plan, and other	public safety		
planning documents, to			
determine whether			
amendments are needed to			
adequately address			
environmental, conservation			
and recreation issues	Dlamaina Daard	Torum hudget and	Intornediate
2.5(c). Develop design	Planning Board,	Town budget and volunteers	Intermediate
guidelines that consider and	Community	volunteers	
address open space and recreation needs	Development		
recreation needs	Department, Open		
	Space and Recreation Committee		
	Committee		

## Goal 3: Provide accessible, well-balanced active and passive recreation opportunities for all Town residents

Objective 3.1: Develop signage to demarcate town-owned land, trails, boat launches, and water resources.				
3.1(a). Develop standard	Open Space and	Town budget, CPC,	Short-term	
signage to identify all town-	Recreation Committee,	Conservation Trust		
owned conservation and	Conservation	fund		
recreation lands, trails, boat	Commission,			
launches and water resource	Tewksbury Trails,			
areas	Board of Selectmen			
3.1 (b). Continue the town's	Conservation	Town budget,	Ongoing	
program of installing signage at	Commission,	volunteers		
recreation and conservation	Tewksbury Trails, Open			
areas	Space and Recreation			
	Committee			
Objective 3.2: Provide adequat	e parking at and enhance	e pedestrian/bicycle acc	cess to athletic fields and	
recreation areas.				
3.2(a) Locations where there is	Conservation	Town budget,	Short-term	
a need for additional parking	Commission and Open	volunteers		
areas should be identified,	Space and Recreation			
documented and prioritized	Committee			
3.2(b).Based on established	Conservation	Town budget/CPA	Intermediate and Long-term	
priorities, construct additional	Commission, DPW,			

parking facilities as resources permit	Community Preservation Committee		
3.2(c). Improve bicycle and pedestrian access to athletic fields and recreation facilities	Open Space and Recreation Committee, DPW, Community Development	Town budget, volunteers	Short-term
Objective 3.3: As resources bed	ome available, provide a	ccess for persons with	disabilities
3.3(a). Improve access to recreation areas, conservation facilities and recreation programs for those with disabilities based on the transition plan included in this documents	Conservation Commission, School Department, Facilities Coordinator, and Open Space and Recreation Committee	Town budget, state grants	Long-term
3.3(b). Identify accessible facilities on the town website	Open Space and Recreation Committee, Community Development Department	Town budget	Ongoing
3.3(c). Periodically evaluate the need for additional accommodations based on community input and changes in guidance and regulations  Objective 3.4: Provide addition	Open Space and Recreation Committee, ADA Coordinator, School Department, Council on Aging and Facilities Manager nal walking, hiking and b	Town budget, volunteers  iking opportunities, as	Ongoing  well as other recreational
opportunities			
3.4(a). Continue to map and mark multi-use trails on conservation and recreation lands	Conservation Commission, Open Space and Recreation Committee, town staff	Town budget, volunteers	Ongoing
3.4(b). Continue to develop a Complete Streets Prioritization Plan and pursue Complete Streets funding for construction of additional pedestrian and bicycle accommodations, with consideration given to linking neighborhoods to recreation areas and parks	DPW, Community Development department	MassDOT funding	Short-term and intermediate
3.5(c).Develop a plan for linking open space and recreation areas via enhanced bicycle and pedestrian connections	DPW, Planning Board, Open Space and Recreation Committee, Conservation Commission, Tewksbury Rail Trails	Town budget, volunteers	Intermediate

3.5(d). Work with the development community to ensure that bicycle and pedestrian accommodations are addressed in the development permitting	Planning Board, Community Development Department	Town budget, private developer resources	Ongoing
3.5(e). Identify areas suitable for winter hiking, snowshoeing and cross country skiing	Open Space and Recreation Committee	Town budget, volunteers	Intermediate
3.5(f). Continue to pursue development of a more extensive trail network	Open Space and Recreation Committee, Tewksbury Trails	Town budget, Volunteers	Ongoing
3.5(g).Identify a suitable location for winter ice skating	Open Space and Recreation Committee	Town budget, volunteers	Short-term

Goal 4: Ensure adequate maintenance of conservation areas, open spaces and recreation facilities in the interest of protecting the Town's investment and reducing long-term costs

Objective 4.1: Encourage civic participation in the development and maintenance of conservation and recreation facilities			
4.1(a). Partner with local organizations, such as youth sports groups, running groups at the State Hospital land, equestrians and non-profits, to plan and coordinate development and maintenance activities.	Open Space and Recreation Committee, youth sports organizations, equestrian and running groups, and non-profits	Volunteer time	Ongoing
4.1(b). Use the town website and social media to inform residents of opportunities to participate in planning activities, trail development, and maintenance activities  Objective 4.2: Develop a compand recreation facilities	Open Space and Recreation Committee	Volunteer time plan for all Town-owned	Ongoing  and controlled conservation
4.2(a). Annually inventory and assess the physical condition of all existing conservation and recreation facilities	Conservation Commission, Open Space and Recreation Committee, Facilities Manager, School Department	Town budget, volunteers	Ongoing
4.2(b). Develop a long-term maintenance plan for all townowned conservation and recreation facilities	Conservation Commission, Open Space and Recreation Committee, Facilities Manager	Town budget, volunteer committee/commission members	Intermediate
4.2(c). Develop a financing plan for implementing the	Conservation Commission, Open	Town budget and volunteer	Long-term

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recommendations outlined in	Space and Recreation	boards/commissions	
the long-term maintenance	Committee, Facilities		
plan	Manager, Community		
	Preservation		
	Committee, Finance		
	Committee		
Objective 4.3: Promote coordi			
4.3(a). Host an annual event	Open Space and	Town budget and	Intermediate
with youth sports leaders and	Recreation Committee,	volunteer time	
the town to discuss	Facilities Manager and		
opportunities for	Youth Sports		
coordination, plan future	leaders/managers		
activities, and to eliminate any			
duplication of effort.			
<b>Objective 4.4: Encourage the e</b>	stablishment of a non-pr	ofit entity to accept priva	ate contributions, such as
donations and fees, to fund op			
4.4(a). In accordance with	Open Space and	Volunteers and private	Intermediate
State and IRS regulations,	Recreation Committee,	contributions	
establish a tax deductible non-	interested residents		
profit entity to solicit and	and local organizations		
receive private funds and			
foundation grants			
4.4(b). Work with the	Open Space and	Volunteers and town	Long-term
established non-profit entity	Recreation Committee,	staff	
to prioritize recreation and	Facilities Manager,		
open space needs, and create a	Conservation		
plan for utilizing private funds	Commission, newly		
	created non-profit		
	entity		
Objective 4.5: Reduce vandali			
4.5(a). Work with the Police	Police Department,	Town resources,	Ongoing
Department to prevent	Open Space and	volunteers	
vandalism and illegal dumping	Recreation Committee,		
through surveillance and	Conservation		
increased patrols in problem	Commission, Facilities		
locations	Manager		
4.5(b). Work with the Police	Police Department,	Town resources,	Ongoing
Department to increase	Open Space and	volunteers	
enforcement of the	Recreation Committee,		
prohibition on off-road vehicle	Conservation		
use on conservation and	Commission		
recreation properties	33		
4.5(c). Educate residents on	Recycling Committee,	Town resources,	Ongoing
available options for legally	Board of Selectmen	volunteers	
disposing of appliances,	Board of Sciectifich	Volunteers	
electronics, construction			
materials, and other forms of			
waste			

Objective 4.6: Create a stewardship program for the care and monitoring of the Town's open space and recreation areas			
	Onen Chase and	Volunteers	Ch out towns
4.6(a). Establish a stewardship	Open Space and	volunteers	Short-term
program whereby volunteers	Recreation Committee,		
periodically inspect a certain	Conservation		
recreation or conservation	Commission		
property and report any			
problem activity or vandalism			
4.6(b). Develop an "Adopt a	Open Space and	Private contributions	Intermediate
Park" program to encourage	Recreation		
private sector assistance in	Commission,		
exchange for public	Conservation		
recognition through signage,	Commission		
etc.			
Objective 4.7: Develop rules a	nd regulations for use of	the Town's open space a	nd recreation lands
4.7(a). Establish rules and	Conservation	Town resources,	Intermediate
regulations for the use of the	Commission and Open	volunteers	
Town's open space lands, and	Space and Recreation		
post at each property and on	Committee, volunteer		
the Town's website	groups		

## Goal 5: Educate and engage the Town's residents regarding existing open space and recreation areas, and encourage enjoyment, use, and stewardship

Objective 5.1: Develop neighborhood parks to meet the needs of residents				
5.1(a). Encourage the development of neighborhood parks as part of the mitigation package for large development projects	Planning Board, Conservation Commission, Zoning Board of Appeals	Town resources	Ongoing	
5.1(b). Improve and enhance cluster zoning options to increase the quantity and quality of open space	Planning Board	Town resources	Ongoing	
5.1(c). Identify undeveloped parcels that are appropriate for neighborhood parks	Community Development, Open Space and Recreation Committee, Tax Assessor	Town resources	Short-term	
5.1(d). Analyze the distance between residential neighborhoods and parks and open space areas, in order to identify the need for additional facilities	Community Development, Open Space and Recreation Committee	Town resources	Short-term	

Objective 5.2: Create an Open Space and Recreation booklet and story map describing facilities such as parks, hiking/biking/walking trails and open space areas. The link to the booklet and story map could be placed on the Town's website.				
5.2(a) Create a map and directory of Tewksbury's	Open Space and Recreation Committee,	Town resources with assistance from	Intermediate	
public open space and recreation areas for posting on	Conservation Commission, town staff	NMCOG		
the Town's website and for distribution in printed form				
5.2(b). Work with the School Department to create ageappropriate educational units on the Town's parks and open space resources	Open Space and Recreation Committee	Town resources	Long-term	
5.2(c). Promote special events through local cable, social	Open Space and	Town resources and volunteers	Ongoing	
media, meeting announcements and the	Recreation Committee, Conservation Commission, Board of	volunteers		
Town's website	Selectmen			

### Goal 6: Preserve important historical and archaeological sites and resources

Objective 6.1: Update the histor	Objective 6.1: Update the historic resources inventory				
6.1(a). Update the town's	Historical Commission,	Town resources, state	Intermediate		
historic survey to identify	Community	grants			
structures, landmarks, and	Preservation				
sites for preservation and	Commission				
protection					
Objective 6.2: Recommend str	cuctures for the State and	l National Register of His	toric Places		
6.2(a). Identify structures for	Historical Commission,	Town resources, state	Intermediate		
inclusion in the National	Board of Selectmen	grants			
Register of Historic Places					
6.2(b). Educate residents on	Historical Commission	Volunteer time	Intermediate		
the difference between a local					
historic district and National					
Register Historic District, and					
on the significance of each.					
6.2(c). Consider the creation of	Historical Commission,	Town resources	Long-term		
a National Register Historic	Board of Selectmen				
District					
6.2(d). Include a preservation	Historical Commission,	Town resources	Ongoing		
restriction on historic	Community				
preservation projects funded	Preservation				
under the Community	Committee				
Preservation Act (CPA)					
Objective 6.3: Update and strengthen the Town's Demolition Delay Bylaw					
6.3(a). Consider extending the	Historical Commission,	Town resources	Intermediate		
Demolition Delay Bylaw from	Board of Selectmen,				
nine months to one year	Town Meeting				

Objective 6.4: Improve the Town Center Overlay District by improving the design guidelines				
6.4(a). Enhance the Town	Planning Board, Open	Town resources	Intermediate	
Center Overlay District Bylaw	Space and Recreation			
and design guidelines to	Committee,			
incorporate open space and	Conservation			
recreation, as well as	Commission, Town			
environmental protection	Meeting			
Objective 6.5: Protect key par	cels, structures and land	lmarks within or adjacen	t to historic resources	
6.5(a). Inventory and map	Historical Commission	Town resources,	Long-term	
significant parcels, structures		volunteer time		
and landmarks within or				
adjacent to historic resources				
6.5(b). Work with property	Historical Commission,	Town resources	Long-term	
owners to protect key	Board of Selectmen			
resources through deed				
restrictions, covenants,				
easements or acquisitions				

### Goal 7: Enhance and protect the scenic and aesthetic character of the Town

Objective 7.1: Work with the State to protect the remaining safe structures on the Tewksbury Hospital				
property				
7.1(a). Work with the Tewksbury Hospital management to inventory and assess the structural condition of remaining buildings on the property	Massachusetts Department of Public Health, Tewksbury Building Commissioner, Community Development	State and town resources	Intermediate	
7.1(b). Work with the Massachusetts Department of Public Health and DCAMM to seek funding to restore and preserve those buildings deemed structurally sound	Massachusetts Department of Public Health, DCAMM, Tewksbury Building Commissioner, Community Development	State and town resources	Long-term	
7.1(c). Create a Street Tree Replacement Program	DPW, Community Development	Town resources	Intermediate	
Objective 7.2: Designate Sceni		ation of a local scenic roa	ds bylaw, in accordance with	
the Scenic Roads Act, M.G.L. Ch				
7.2(a). Develop an inventory of potential scenic roads	Planning Board, Board of Selectmen, DPW, Community Development	Town resources	Short-term	
7.2(b). Prepare a draft Scenic Roads Bylaw for public review and comments, and revise based on input received	Planning Board, Community Development	Town resources	Intermediate	
7.2(c). Seek Town Meeting approval of final Scenic Roads Bylaw	Planning Board, Board of Selectmen	Town Resources	Intermediate	

Goal 8: Work with regional, federal and state agencies, and non-profit organizations to develop a trail network linking open spaces within Tewksbury, as well as establishing linkages to trail facilities in adjoining communities

Objective 8.1: Provide increased opportunities for walking and bicycling, such as working with Tewksbury Rail Trails (TRT) and Bay Circuit Trail (AMC)				
8.1(a). Continue to develop new trails on recreation and	Open Space and Recreation Committee,	Town resources, volunteers, state and	Ongoing	
conservation lands as	Tewksbury Trails,	federal grants		
opportunities arise, focusing	Conservation	3		
on connectivity and linkages	Commission, DPW			
8.1(b). Continue to engage	Open Space and	Town resources,	Ongoing	
volunteers and civic groups in	Recreation Committee,	volunteer time		
assisting with trail planning,	Tewksbury Trails,			
construction and maintenance	Conservation			
	Commission, DPW,			
	local civic groups			
8.1(c). Collaboratively develop	Open Space and	Town resources,	Intermediate	
a town-wide trail plan to	Recreation Committee,	volunteers, non-profits		
address pedestrian and bicyclists needs	AMC, Tewksbury Trails, Conservation			
bicyclists fieeds	Commission, DPW,			
	Community			
	Development			
8.1(d). Develop a financing	Open Space and	Town resources,	Long-term	
plan and implementation	Recreation Committee,	volunteers, non-profits		
schedule for the town-wide	AMC, Tewksbury	-		
trail plan	Trails, Conservation			
	Commission, DPW,			
	Community			
	Development			
Objective 8.2: Encourage the g and state-owned land	ranting of easements an	d the development of tra	ils on private, quasi-public	
8.2(a). Encourage developers	Dlanning Poard	Town resources,	Ongoing	
to provide trail easement as	Planning Board, Community	private resources	Ongoing	
part of the subdivision and	Development	private resources		
site plan review processes	Development			
8.2(b). Continue the	Massachusetts	Town and state	Ongoing	
established partnership with	Department of Public	resources, volunteer		
the Tewksbury Hospital	Health, Open Space and	time		
relative to trail access and	Recreation Committee,			
improvements on state	Community			
hospital land	Development, DCAMM			
	Objective 8.3: Continue to work with the Bay Circuit Alliance and Appalachian Mountain Club on the planning and design of an interregional trail			
8.3(a). Continue ongoing work	Open Space and	Town resources, state	Ongoing	
with the Bay Circuit Alliance/	Recreation Committee,	grants, AMC resources		
Appalachian Mountain Club	Tewksbury Trails,	0-3110,1111010001000		
(AMC) on design and	AMC, Conservation			
construction of the Bay Circuit	Commission,			
Trail	Community			
	Development			

Objective 8.4: Work with the Department of Fisheries and Wildlife (DFW) to establish a greenway along the Merrimack and Shawsheen Rivers				
8.4(a). Establish a dialogue with the DFW and explore alternatives for creating greenways along the Merrimack and Shawsheen Rivers	DFW, Conservation Commission, Open Space and Recreation Committee, Tewksbury Trails, Community Development	Town and State resources	Short-term	
8.4(b). Conduct a feasibility study to evaluate the alternatives identified for the proposed greenways, as described above	DFW, Conservation Commission, Open Space and Recreation Committee, Tewksbury Trails, Community Development	Town and State resources	Intermediate	

## Goal 9: Identify and acquire open space and recreation lands for permanent protection, as properties and funding become available

Objective 9.1: Identify additional parcels of conservation and recreation interest			
9.1(a). Develop a prioritized	Open Space and	Town resources	Short-term
listing of parcels of	Recreation Committee,		
conservation and recreation	Conservation		
interest for future acquisition,	Commission,		
as resources are made	Community		
available	Development, Tax		
	Assessor		
Objective 9.2: Seek funding the			the acquisition and
	space and recreation pr	1	
9.2(a). Apply for LAND, PARC	Open Space and	Town resources and	Ongoing
and other available grant	Recreation Committee,	volunteers	
funding to acquire, protect and	Conservation		
improve recreation and open	Commission,		
space properties based on the	Community		
town's identified priorities	Development		
Objective 9.3: Evaluate the fea			ulations to encourage the
protection of open space and i		<u> </u>	
9.3(a). Establish a procedural	Planning Board,	Town resources	Short-term
checklist for the Open Space	Community		
Residential Development	Development		
Bylaw			
9.3(b). Modify the town's	Planning Board,	Town resources	Short-term
development regulations to	Engineering,		
include the requirements of	Community		
EPA's MS4 permit	Development, Town		
	Meeting		
Objective 9.4: Evaluate existing open space parcels and ensure permanent protection			
9.4(a). Review the open space	Open Space and	Town resources	Intermediate
and recreation land inventory	Recreation Committee,		
to identify errors and clarify	Community		
information relative to	Development, Tax		
ownership, level of protection,	Assessor, legal counsel		
etc.			

MAP 10\_Seven-Year Action Plan

### **Section 10: Public Comments**

(To be completed following the public meeting on the Plan)